



R E P O R T
ON THE HEALTH OF THE
CITY OF LIVERPOOL

FOR THE YEAR

— 1950 —

BY

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PUBLIC HEALTH DEPARTMENT,
LIVERPOOL.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you my twentieth Annual Report relating to the health of the City of Liverpool. I wish to acknowledge the assistance given by other departments in providing certain information which has been included in the Report.

A perusal of the information from such diverse sources contained in the following pages affords a good indication of the wide-ranging activities of the Health Department. The fundamental principles of this aspect of the Corporation's activities are threefold—

- (1) to promote health;
- (2) To prevent disease;
- (3) to provide care for those in need as a result of age, infirmity, illness, or other causes.

The various services provided may be mainly environmental such as the work of the sanitary section of the department, or socio-medical, like the maternity and child welfare and welfare sections, but it is only by the closest integration of these services in themselves, together with the medical services provided by general practitioners and the hospital and specialist service that the highest degree of community health and well-being can be achieved.

The administrative framework of the National Health Service has not, however, had the effect of encouraging close co-operation between the various units comprising it and as a result there has been some tendency, as experience during the last three years has shown, for the service to become stereotyped into watertight compartments. It is to be hoped that the present-day narrow concept of National Health will be overcome by the exercise of goodwill by all, and the appreciation that a State service of this kind must subserve the sum total of the health needs of the community, and not simply the demands of disease.

The Registrar-General estimated that the civilian population of the City was 802,300, and this figure has been used in the calculation of certain of the rates in this Report. The natural increase of the population (that is, the excess of births over deaths) during the year was 6,810. The total number of births in 1950 was 16,110, comprising 8,265 males and 7,845 females, giving a birth-rate per thousand of the population of 20·1 as contrasted with a figure of 20·7 in 1949. Of the total births 968 were illegitimate or 6·0 per cent. as compared with 943 or 5·7 per cent. in 1949 and 691 or 4·6 per cent. in 1940.

The total number of deaths in 1950 was 9,300, giving a general death rate of 11·6, which was similar to the death rate for 1949. In England and Wales in 1950 the death rate was also 11·6. By applying the Comparability Factor supplied by the Registrar-General, the crude death rate for Liverpool can be standardised for age and sex distribution of the population to make it comparable with the England and Wales death rate. A new table has been set out to face page 2 to show how Liverpool compares with a number of other large centres of population.

The infantile mortality rate during the year was 37 per 1,000 live births as compared with 44 in 1949 and 54 in 1948. This considerable fall in infant mortality is a most encouraging feature of the year's work and one of which the City may be proud. This is the lowest figure for infant mortality ever recorded in Liverpool and when compared with the figure for England and Wales of 30 and that for the 126 great towns and county boroughs of the country 34, it may be said that Liverpool is not only showing a general improvement in infant mortality with the rest of the country, but that the City is reducing its handicap in infant life preservation as a result of improvements in mothercraft, housing and the general standard of education.

During the year the City remained more or less free of serious epidemic disease until the last week of the year when an influenza epidemic of great severity struck the City. This epidemic for three consecutive weeks caused the highest weekly death-roll, apart from the "blitz" in 1941, since the great cholera epidemic of 1849. As the epidemic began in 1950, a full report of it has been included in this report (pages 23—28) in the form of the somewhat abridged scientific paper on the epidemic given by Dr. Semple, the Deputy Medical Officer of Health, to the Royal

Society of Medicine. This influenza epidemic struck mainly at the aged and many tragic incidents occurred. It will be sufficient to instance that during one week-end the Police had reported 28 persons who had died in their homes without a medical practitioner in attendance.

Whilst the expeditious admission of seriously ill persons to hospitals and the fullest use of all hospital beds is the right method of dealing with an epidemic problem of this kind, the health department staff is being increased by eight additional Welfare Visitors in order that more domiciliary help and advice may be given.

No cases of smallpox occurred in the City during the year. The only unusual happening was a case of typhus fever—a rare occurrence in this country and worthy of special mention. The sufferer was an Indian seaman who apparently had contracted the disease in Peru, South America. He left his ship at Antwerp on 20th May, 1950, and travelled to Liverpool to join his family. He was admitted to Sefton General Hospital as a pyrexia of unknown origin on 25th May, 1950, and typhus fever was diagnosed a few days after admission. Subsequent serological tests confirmed that the man had suffered from a mild attack of exanthematous louse-borne typhus. Immediately upon receipt of the diagnosis from hospital, preventive measures, especially with regard to the patient's wife and six children, were taken. No further cases developed.

Food and drink infections, of which 39 were notified during the year, are still a matter for concern, and the methods of food handling in the City still leave much to be desired. One large outbreak of bacterial food poisoning occurred in a children's hospital when 40 children were affected. The organism was the *Staphylococcus pyogenes aureus* and the vehicle of infection was raw milk which was served with a milk pudding given to the children.

Diphtheria immunisation has continued throughout the year, and some 18,116 children were immunised or given a booster dose of diphtheria prophylactic. The percentages of the child population immunised are now—

0—5 age group ... 40·5 per cent.

5—15 age group ... 77·7 per cent.

We are now reaping the full benefits of the diphtheria immunisation campaign, and during 1950 only 66 cases of diphtheria occurred in the City with 2 deaths. To appreciate this we may compare these figures with the figures of 1940 before immunisation was so widely accepted, when there were 2,197 cases with 134 deaths, and in 1930 when only a small number of children were immunised and there occurred in the City 4,023 cases and 236 deaths.

I should welcome the same intensive application of preventive measures to tuberculosis to the full extent that this may be practicable but owing to the splitting of the tuberculosis service and separation of prevention from cure in the National Health Service Act this has been extremely difficult. However, some progress has been made. In 1949, with 1,568 new cases notified, 1,201 contacts were examined, whilst in 1950, when 1,377 new cases were notified, 2,199 contacts were examined. B.C.G. vaccine is being used in the City for susceptible contacts, new-born babies whose mothers are suffering from tuberculosis, and certain other susceptible persons.

The welfare services have continued to develop during the year and two new hostels for the aged were opened providing additional accommodation for 38 aged person. The welfare visitors (1 senior and 5 others) are fully employed dealing with the many problems which arise in the course of the work of the Welfare Section and are coping with many of the community difficulties, formerly dealt with by Relieving Officers.

The Mental Health Service is also progressing, and two new occupation centres at Dovecot and Garston were opened, providing 100 places for uneducable mentally defective children. In mental deficiency, much of our efforts are being frustrated through inability to get even the worst mental defectives in the City admitted to institutions. More provision for low grade cases of this type is very urgently required.

In the field of mental illness the domiciliary and after-care services provided by the local authority are doing much to ease the many associated difficulties which arise for patients and relatives alike.

The Sanitary Section, Food Hygiene Sections and Ambulance Sections are all playing their part efficiently in the City's health organisation,

and the report gives a full account of the manifold duties of the Department in connection with these subjects.

Unfortunately, the Health Department is housed in somewhat inaccessible, inadequate, uncongenial accommodation at the Newsham General Hospital. It would be highly desirable and would undoubtedly lead to a fuller and more beneficial use of the services described herein, if suitable, centrally situated, office accommodation could be provided. Because of the many essential contacts between the Health Department, other departments of the Corporation's services and the Regional Hospital Board, it is especially necessary that centrally situated offices should be secured.

It is again a pleasure to express my thanks to the Chairman and members of the Health Committee for the courtesy and kindness with which they have considered the various suggestions and recommendations made to them and also my warm appreciation of the loyal and efficient work of the staff of the Health Department. The volume of work here described could not have reached its present standard of usefulness were it not for the unstinted efforts of all members of the staff.

I am,

Your obedient Servant,

W. M. FRAZER,
Medical Officer of Health.

CITY OF LIVERPOOL.

SUMMARY

OF

VITAL STATISTICS FOR 1950.

Area (land and inland water) ... ... ...	... 27,321 Acres (43 sq. miles)
Population (Estimated by Registrar General)	802,300
Live Births 16,110	Live Birth rate ... 20·1 per 1,000 of estimated population.
Deaths (all causes) 9,300	Death rate ... 11·6 per 1,000 of estimated population.
Deaths (under 1 year of age) 81	Infant Mortality } 87 per 1,000 live births rate }
Deaths from :—	
Seven principal Zymotic diseases } 601	Zymotic death rate } 0·10 }
Pulmonary Tuberculosis } 481	Pulmonary Tuberculosis death rate } 0·60 }
Other forms of Tuberculosis } 64	Non Pulmonary Tuberculosis death rate } 0·08 }
Respiratory diseases 1,352	Respiratory death rate } 1·68 }
Cancer 1,556	Cancer death rate } 1·94 }
Maternal Deaths 7	Maternal Mortality rate } 0·42 per 1,000 births }

BIRTHS.

The number of live births recorded during the year 1950 was 16,110, equal to a rate of 20·1 per 1,000 of the estimated resident mid-year population. Of the total births,, 8,265 were males and 7,845 were females. The number of illegitimate live births was 968 or 6·0 per cent. of the total births, 475 being males and 493 females.

The birth rate in the City of Liverpool was considerably above the average of the great towns, which was 17·6 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was 15·8 per 1,000.

The number of still-births registered was 375 as shown in the table below. This represented 22·7 per thousand of the total (live and still) births registered and 0·47 per 1,000 of the estimated population.

	LIVE BIRTHS.			STILL BIRTHS.		
	Males.	Females.	Total.	Males.	Females.	Total
Legitimate ...	7,790	7,352	15,142	192	153	345
Illegitimate ...	475	493	968	21	9	30
	8,265	7,845	16,110	213	162	375

The following figures show not only an increase in the actual number of illegitimate births, but an increase in the proportion of illegitimate births when compared with 1938.

	Births.	Birth Rate.	Illegitimate Birth Rate per 1,000 population.	% of Total Births.	Total Illegitimate Births.
1938	16,175	18·7	0·89	4·8	771
1942	13,729	20·5	1·30	6·3	871
1943	14,432	21·8	1·55	7·1	1,030
1944	15,412	23·1	1·91	8·3	1,274
1945	14,784	21·7	2·32	10·7	1,582
1946	18,528	25·2	1·84	7·3	1,351
1947	19,904	26·4	1·53	5·8	1,151
1948	17,695	22·3	1·27	5·7	1,009
1949	16,551	20·7	1·18	5·7	943
1950	16,110	20·1	1·21	6·0	968

STILL-BIRTHS.

The following figures show the reduction in the numbers of still-births which have taken place in the City during the past fifteen years and the corresponding rates per thousand of population and per thousand births. The latter rate is the more valuable as it expresses the proportion

TABLE SHOWING POPULATION, BIRTH-RATES, DEATH-RATES, ZYMOTIC DEATH-RATES, INFANT AND MATERNAL MORTALITY RATES OF 12 LARGE TOWNS
IN ENGLAND AND WALES FOR 1950.

	Birmingham	Bradford	Bristol	Cardiff	Kingston-upon-Hull	Leeds	Leicester	Liverpool	Manchester	Newcastle-upon-Tyne	Nottingham	Sheffield
Registrar General's estimated population for 1950	1,117,900	294,300	442,600	244,600	302,100	509,700	287,520	802,300	704,500	294,800	307,000	515,000
Comparability factor—												
(a) Births	0.97	1.02	1.00	0.97	1.01	0.97	0.99	0.97	0.96	0.98	0.98	1.00
(b) Deaths	1.13	0.98	0.98	1.07	1.15	1.08	1.02	1.20	1.12	1.10	1.09	1.08
Birth rate per 1,000 population	16.8	16.7	16.03	17.48	19.3	15.9	16.73	20.1	17.65	16.80	17.4	14.3
Crude death rate per 1,000 population	10.9	14.2	11.48	11.59	11.5	12.3	11.53	11.6	12.77	13.31	11.1	11.4
Death rate as adjusted by factor	12.3	13.9	11.25	12.40	13.2	13.3	11.73	13.9	14.30	14.64	12.01	12.3
Death rates per 1,000 population from—												
Typhoid and Paratyphoid Fever ...	—	—	—	—	0.00	—	—	—	0.001	—	—	—
Meningococcal Infection ...	0.01	0.01	—	0.004	0.00	0.004	0.0034	0.015	0.007	0.014	0.003	0.002
Scarlet Fever ...	—	—	—	—	0.01	—	—	—	—	—	—	—
Whooping Cough ...	0.02	0.03	0.005	0.004	0.02	0.01	0.0104	0.025	0.03	0.024	0.02	0.016
Diphtheria ...	—	—	—	—	—	0.002	—	0.002	0.004	—	—	—
Influenza ...	0.07	0.08	0.106	0.089	0.04	0.04	0.014	0.066	0.09	0.149	0.07	0.045
Measles ...	0.01	0.01	0.007	0.008	0.00	0.004	0.0104	0.005	0.01	0.003	0.01	0.004
Acute Poliomyelitis and Encephalitis ...	0.05	0.02	0.068	0.008	0.01	0.02	0.014	0.007	0.007	0.014	0.003	0.010
Acute Infectious Encephalitis ...	—	0.01	0.007	—	—	—	0.0034	—	0.004	0.010	—	0.006
Smallpox ...	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhoea (under 2 years) ...	0.04	0.07	0.0045	0.028	1.7	0.03	0.0208	0.052	0.05	0.030	2.6	0.027
Tuberculosis—												
(a) Pulmonary ...	0.43	0.31	0.411	0.457	0.43	0.35	0.43	0.599	0.58	0.621	0.46	0.313
(b) Other forms ...	0.03	0.06	0.043	0.028	0.06	0.03	0.027	0.080	0.07	0.085	0.03	0.054
Cancer (all forms) ...	1.88	2.25	1.979	1.92	1.82	2.08	1.95	1.939	1.99	2.185	1.94	1.930
Infantile mortality rate ...	30.2	38.0	23.25	27.0	34.3	31.0	29.5	37.3	37.87	33.65	31.0	27.8
Neonatal mortality rate ...	19.2	20.0	15.78	16.78	20.08	18.2	18.6	19.6	20.60	20.39	16.9	18.9
Stillbirth rate ...	23.0	22.3	21.78	24.99	24.77	22.74	21.8	22.84	26.08	28.84	19.5	21.0
Maternal mortality rate (per 1,000 total births) from—												
(a) Sepsis ...	0.36	0.40	0.00	—	0.17	0.12	0.62	0.06	0.08	0.38	0.37	—
(b) Other causes ...	0.47	1.00	0.96	—	0.50	0.48	0.41	0.36	0.70	0.96	—	0.531
Total maternal mortality rate ...	0.83	1.40	0.96	0.66	0.67	0.60	1.03	0.42	0.78	1.34	0.37	0.531

of total births lost, the actual number 23 of live births occurring varying from 17,347 in 1935 down to 13,291 in 1941 and up to 16,110 in 1950. It will be noted that there has been a marked and almost continuous fall in the still-birth rate throughout this period, thus constituting a considerable saving of life additional to that which has resulted from the infant mortality rate. The fall is 55 per cent. of the 1935 figure and the rate is now below 30 per thousand births, and it is probable that a further considerable reduction is still possible.

The causes of this reduction, which has also affected the country generally though not in the same degree, are somewhat obscure. The greater care of expectant mothers in the ante-natal clinics and the better obstetric services have undoubtedly contributed to this reduction, but there is some evidence to show that the better nutrition of expectant mothers of the labouring classes, together with diminished unemployment, have also largely contributed.

The still-birth rate among legitimate babies was 22 per thousand and among illegitimate babies was 30 per thousand births.

Year.	Registered Live Births.	Registered Still Births.	Total Births.	Still-births Rate per 1,000 population.	Still-births per 1,000 Live and Still Births.
1935.....	17,347	749	18,096	0·9	41·4
1936.....	17,403	708	18,111	0·8	39·1
1937.....	16,728	618	17,346	0·7	35·6
1938.....	16,175	639	16,814	0·7	38·0
1939.....	15,614	631	16,245	0·8	38·9
1940.....	15,016	519	15,535	0·7	33·4
1941.....	13,291	508	13,799	0·7	36·3
1942.....	13,729	552	14,281	0·8	38·6
1943.....	14,432	485	14,917	0·7	32·5
1944.....	15,412	492	15,904	0·7	30·9
1945.....	14,784	431	15,215	0·6	28·3
1946.....	18,528	539	19,067	0·7	28·3
1947.....	19,904	514	20,418	0·7	25·2
1948.....	17,695	479	18,174	0·6	26·3
1949.....	16,551	358	16,909	0·4	21·2
1950.....	16,110	375	16,485	0·5	22·7

DEATHS.

The total deaths registered during the year numbered 9,300 (4,852 males and 4,448 females), equal to a death rate of 11·6 per 1,000 of the estimated resident population.

The death rate for England and Wales was 11·6 and that of the great towns was 12·3. The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1920 to 1950:—

Year	Under 5 years.	AT AGES—YEARS.									
		5—	10—	20—	30—	40—	50—	60—	70—	80—	
1920	... 33	% 2	% 4	% 5	% 7	% 9	% 11	% 13	% 12	% 4	100
1921	... 33	2	4	5	6	9	11	13	12	5	100
1922	... 28	2	4	5	6	9	12	15	14	5	100
1923	... 30	2	4	5	6	9	12	14	13	5	100
1924	... 29	2	4	4	6	8	12	15	15	5	100
1920-1924 (average)	30	2	4	5	6	9	12	14	13	5	100
1925	... 28	2	4	4	5	9	12	15	15	6	100
1926	... 28	2	3	5	6	9	12	15	14	6	100
1927	... 25	2	3	5	5	9	12	16	16	7	100
1928	... 25	2	4	5	5	9	12	16	16	6	100
1929	... 23	3	3	5	5	9	12	16	17	7	100
1925-1929 (average)	26	2	3	5	5	9	12	16	16	6	100
1930	... 20	3	4	5	5	9	14	17	16	7	100
1931	... 23	2	3	5	5	8	12	17	18	7	100
1932	... 22	2	3	5	5	8	13	17	17	8	100
1933	... 21	2	3	5	5	8	13	17	18	8	100
1934	... 20	2	3	5	6	8	12	18	18	8	100
1930-1934 (average)	21	2	3	5	5	8	13	17	18	8	100
1935	... 17	2	3	5	5	8	13	19	20	8	100
1936	... 16	2	3	5	5	7	14	19	21	8	100
1937	... 17	2	2	5	5	7	13	19	21	9	100
1938	... 16	1	3	4	5	7	13	20	22	9	100
1939	... 13	1	3	4	4	7	14	21	23	10	100
1935-1939 (average)	16	2	3	5	5	7	13	19	21	9	100
1940	... 14	2	3	4	5	8	14	21	20	9	100
1941	... 15	2	4	5	6	8	13	20	19	8	100
1942	... 14	1	2	4	5	7	14	22	22	9	100
1943	... 14	1	2	3	5	7	13	22	23	10	100
1944	... 12	1	2	4	4	7	13	23	24	10	100
1940-1944 (average)	14	1	3	4	5	7	13	22	22	9	100
1945	... 13	1	2	3	4	7	13	22	23	12	100
1946	... 16	1	2	3	3	6	12	21	24	12	100
1947	... 15	1	2	3	4	6	11	20	25	13	100
1948	... 12	1	1	3	4	7	12	21	26	13	100
1949	... 9	1	1	3	4	6	12	22	28	14	100
1945-1949 (average)	13	1	2	3	4	6	12	21	25	13	100
1950	... 8	1	1	3	3	6	12	22	29	15	100

Deaths from certain groups of Diseases in each decade from 1881 to 1940, and during the years 1941 to 1950.

Years.	(a) Infective diseases (less Diarrhea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	Total Deaths from (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931-1940	6,473	9,413	18,196	5,987	40,069	12,619	115,632
1941	623	846	2,226	447	4,142	1,211	13,253
1942	495	777	1,403	383	3,058	1,279	9,388
1943	238	773	1,856	399	3,266	1,337	9,719
1944	226	679	1,344	362	2,611	1,215	9,010
1945	200	701	1,620	435	2,956	1,230	9,523
1946	206	657	1,462	569	2,894	1,312	9,671
1947	222	684	1,677	599	3,217	1,314	10,122
1948	151	715	1,198	463	2,527	1,429	9,027
1949	186	610	1,590	361	2,747	1,382	9,334
1950	98	545	1,352	310	2,305	1,556	9,300

Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).

1881-1890	14.1	12.7	23.2	9.4	59.4	2.0	100.0
1891-1900	9.3	10.8	24.6	12.7	57.4	2.9	100.0
1901-1910	8.6	10.6	21.8	12.0	53.0	4.3	100.0
1911-1920	7.9	10.9	27.3	8.9	55.0	5.5	100.0
1921-1930	6.6	10.7	25.0	6.9	49.4	8.4	100.0
1931-1940	5.6	8.1	15.7	5.2	34.7	10.9	100.0
1941	4.7	6.4	16.8	3.4	31.3	9.1	100.0
1942	5.3	8.3	14.9	4.1	32.6	13.6	100.0
1943	2.4	8.0	19.1	4.1	33.6	13.7	100.0
1944	2.5	7.5	14.9	4.0	28.9	13.5	100.0
1945	2.1	7.4	17.0	4.6	31.1	12.9	100.0
1946	2.1	6.8	15.1	5.9	29.9	13.6	100.0
1947	2.2	6.8	16.6	5.9	31.8	13.0	100.0
1948	1.7	7.9	13.3	5.1	28.0	15.8	100.0
1949	2.0	6.5	17.0	3.9	29.4	14.8	100.0
1950	1.0	5.9	14.4	3.3	24.8	16.7	100.0

Death Rates per 1,000 Population.

Years,	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	(e) Total Deaths from all causes.
1881-1890	3.6	3.2	5.9	2.4	15.1
1891-1900	2.2	2.7	5.9	3.0	13.8
1901-1910	1.9	2.2	4.5	2.5	11.1
1911-1920	1.3	1.9	4.7	1.6	9.5
1921-1930	0.9	1.4	3.3	0.9	6.5
1931-1940	0.7	1.1	2.1	0.7	4.7
1941	0.9	1.2	3.2	0.6	5.9
1942	0.7	1.1	2.1	0.6	4.5
1943	0.3	1.2	2.8	0.6	4.9
1944	0.3	1.0	2.0	0.5	3.9
1945	0.3	1.0	2.4	0.6	4.3
1946	0.3	0.9	2.0	0.8	3.9
1947	0.3	0.9	2.2	0.8	4.2
1948	0.2	0.9	1.5	0.6	3.2
1949	0.2	0.8	2.0	0.4	3.4
1950	0.1	0.7	1.7	0.4	2.9

Death-Rates expressed as a percentage of the rates experienced in 1881-1890 (Index Numbers).

1881-1890	.....	69.0	88.0	104.0	85.7	89.1	125.0	91.
1891-1900	.....	42.0	75.0	104.0	107.2	79.3	175.0	84.
1901-1910	.....	36.0	61.0	79.0	89.3	64.3	225.0	70.
1911-1920	.....	26.0	50.0	83.0	56.7	56.0	250.0	67.
1921-1930	.....	17.1	40.0	58.8	36.8	38.5	280.0	47.7
1931-1940	.....	13.5	30.6	36.8	25.0	27.2	375.0	48.1
1941	.....	17.3	33.3	56.1	21.4	34.1	450.0	67.7
1942	.....	13.5	30.6	36.8	21.4	26.0	475.0	49.1
1943	.....	5.8	33.3	49.4	21.4	28.3	500.0	51.6
1944	.....	5.8	28.0	35.1	17.9	22.5	450.0	47.4
1945	.....	5.8	28.0	42.1	21.4	24.8	450.0	49.1
1946	.....	5.8	25.0	35.1	21.4	22.5	450.0	46.3
1947	.....	5.8	25.0	38.6	28.6	24.3	425.0	47.4
1948	.....	3.9	25.0	26.3	21.4	18.5	450.0	40.0
1949	.....	3.9	22.2	35.1	14.3	19.6	425.0	40.7
1950	.....	2.0	19.4	29.8	14.3	16.8	475.0	40.7

Deaths in the various Wards of the City.

Abercromby ...	... 280	Netherfield ...	... 207
Aigburth ...	... 268	North Scotland ...	... 153
Allerton ...	... 149	Old Swan ...	... 413
Anfield ...	... 293	Princes Park ...	... 216
Breckfield ...	... 229	St. Anne's ...	... 137
Brunswick ...	... 174	St. Domingo ...	... 215
Castle Street...	... 5	St. Peter's ...	... 42
Childwall ...	... 186	Sandhills ...	... 139
Croxteth ...	... 464	Sefton Park East ...	... 264
Dingle ...	... 318	Sefton Park West ...	... 250
Edge Hill ...	... 225	South Scotland ...	... 162
Everton ...	... 286	Speke ...	... 113
Exchange ...	... 19	Vauxhall ...	... 48
Fairfield ...	... 293	Walton ...	... 404
Fazakerley ...	... 298	Warbreck ...	... 309
Garston ...	... 143	Wavertree ...	... 396
Granby ...	... 254	Wavertree West ...	... 196
Great George...	... 69	West Derby ...	... 506
Kensington ...	... 234	Miscellaneous (No fixed abode or resident out of England and Wales) ...	159
Kirkdale ...	... 395		
Little Woolton ...	... 51		
Low Hill ...	... 242		9,300
Much Woolton ...	... 96		

INFANTILE MORTALITY.

The following table shows the deaths and death-rates of infants under one year of age for the year 1950:—

		Infant Deaths.	Infant Death Rates.	
All Infants ...	...	601	37 per 1,000 live births.	
Legitimate Infants ...	...	571	37	,, legitimate live births.
Illegitimate Infants ...	...	40	41	,, illegitimate live births.

Analysis of causes of Infant Mortality in successive quinquennia 1896-1945, and the years 1946 to 1950.

(A.)—Recorded Deaths.

Years.	1 Total Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tuberculosis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respiratory Diseases	7 Digestive Diseases (including Diarrhoea.)	8 Malformations, Premature Birth, Marasmus, &c.	9 External Cause
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
1931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	63
1936/1940	80,936	6,226	573	74	519	1,457	698	2,691	84
1941/1945	71,648	5,512	341	71	403	1,704	548	2,193	133
1946	18,528	1,382	77	11	94	272	306	574	22
1947	19,904	1,367	93	19	56	304	315	525	33
1948	17,695	954	48	6	32	214	196	434	11
1949	16,551	730	70	5	20	182	99	334	10
1950	16,110	601	23	6	11	137	47	359	11

(B.)—Death Rates per 1,000 Births.

1896/1900	*33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·1
1926/1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
1931/1935	20·5	89	10·1	0·9	4·2	23·1	13·4	35·3	0·0
1936/1940	19·4	77	7·0	0·9	6·4	17·9	8·8	32·9	1·0
1941/1945	21·3	78	4·8	1·0	5·6	24·1	7·7	30·7	1·1
1946	25·2	74	4·1	0·6	5·1	14·7	16·5	31·9	1·1
1947	26·4	69	4·7	0·9	2·9	15·3	15·8	26·4	2·2
1948	22·3	54	2·7	0·3	1·8	12·1	11·1	24·5	1·1
1949	20·7	44	4·2	0·3	1·2	11·0	6·0	20·2	1·1
1950	20·1	37	1·4	0·4	0·7	8·5	2·9	22·3	0·0

*In column 1 the rates indicate the number of births per 1,000 of the population.

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1901/1905	100·0	91·0	102·3	89·3	95·9	91·5	76·5	94·0	64
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	24
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	10
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	1
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	10
1936/1940	58·1	40·7	55·1	14·5	29·0	55·9	15·4	64·5	1
1941/1945	63·8	41·3	37·8	16·1	25·3	75·3	13·5	62·0	2
1946	75·4	39·1	32·3	9·7	23·1	46·0	28·9	60·8	1
1947	79·0	36·5	37·0	14·5	13·1	47·8	27·7	51·8	2
1948	66·8	28·6	21·2	4·8	8·1	37·8	19·4	48·0	1
1949	62·0	23·3	33·1	4·8	5·4	34·4	10·5	39·6	1
1950	60·2	19·6	11·0	6·4	3·2	26·6	5·1	43·7	1

CHILD MORTALITY.

TABLE I.

ar.	Deaths under 1 year of age.	DEATHS, 1 YEAR AND UNDER 5 YEARS OF AGE.						(j)		
		Total, 1 year and under 5 years of age.	General Diseases (including T.B.).	Respira- tory Diseases.	Digestive Diseases.	Measles.	Whooping Cough.	Scarlet Fever.		
						Included in General Diseases.				
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)
20	2,826	1,472	697	536	90	285	129	109	35	
21	2,339	1,488	610	474	221	250	135	51	19	
22	2,052	1,255	449	577	77	126	98	53	22	
23	2,058	1,321	577	478	117	247	85	57	28	
24	2,113	1,207	453	498	102	103	98	40	37	
25	1,935	1,456	706	480	144	280	139	68	65	
26	2,066	1,155	451	456	147	149	107	51	12	
27	1,781	1,206	517	481	99	248	75	55	4	
28	1,789	1,038	467	369	101	131	161	55	11	
29	1,822	1,404	677	518	112	326	110	75	23	
30	1,544	756	346	251	65	113	38	78	15	
31	1,740	1,062	535	368	67	253	87	74	4	
32	1,646	890	486	251	59	227	74	85	3	
33	1,655	944	474	287	84	234	53	79	18	
34	1,418	799	438	231	40	174	109	77	4	
35	1,445	561	269	176	35	110	34	66	2	
36	1,311	540	307	148	19	116	65	58	1	
37	1,371	579	289	176	43	92	59	61	6	
38	1,189	508	264	153	28	77	60	64	3	
39	1,098	247	88	82	25	—	14	39	1	
40	1,257	522	234	147	25	88	9	63	2	
41	1,350	658	279	182	25	15	67	88	4	
42	1,039	258	126	50	10	16	9	38	1	
43	1,171	208	80	60	15	8	21	21	—	
44	884	184	79	33	12	6	11	16	—	
45	1,068	185	71	46	16	5	12	13	—	
46	1,382	158	66	29	8	13	6	16	—	
47	1,367	189	78	41	15	8	32	6	—	
48	954	161	67	32	14	8	8	8	—	
49	730	149	53	31	12	5	15	2	—	
50	601	121	41	37	5	1	11	1	—	

CANCER.

There were 1,556 deaths recorded from cancer, as compared with 1,362 in 1949, this being equivalent to a death-rate of 1·9 per 1,000 of the population.

DEATHS FROM CANCER AT VARIOUS AGE-PERIODS, 1950.

Organs Affected	Males	Females	Number of Deaths										All Ages	
			At Ages—Years											
			Under 10	10-	25-	40-	50-	60-	70-	75-	80-			
Buccal Cavity	36	10	—	—	1	1	4	10	12	11	7	46		
Digestive Organs	345	306	1	2	16	51	106	175	133	88	79	651		
Respiratory System	268	63	—	—	13	57	94	112	34	14	7	331		
Female Genital Organs	—	105	—	—	3	17	26	33	15	4	7	105		
Breast	—	108	—	—	8	18	21	35	12	7	7	108		
Other Organs	201	114	9	6	20	28	40	104	43	40	25	315		
	850	706	10	8	61	172	291	369	249	164	132	1,556		

INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1950:—

Anthrax	Paratyphoid Fever
Acute Poliomyelitis	Plague
Cerebro-spinal Fever	Pneumonia, Acute Influenza
Cholera	Pneumonia, Acute Primary
Diphtheria	Polio-encephalitis, Acute
Dysentery	Puerperal Pyrexia
Enteric (Typhoid) Fever	(including Puerperal Fever)
Erysipelas	Relapsing Fever
Encephalitis Lethargica, Acute	Scarlet Fever or Scarlatina
Food Poisoning (Food and Drugs Act, 1938)	Smallpox
Malaria	Tuberculosis (all forms)
Measles	Typhus Fever
Membranous Croup	Whooping Cough
Ophthalmia Neonatorum	

TABLE I.

NUMBERS OF CASES OF INFECTIOUS DISEASE REPORTED DURING 1950,
AND NUMBERS ADMITTED TO HOSPITAL.

		January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Cases admitted to hospital	Percentage admitted to hospital
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	3	1	4	—	—	—	1	1	—	—	—	—	—	10	10	100·0
Scarlet Fever ...	162	155	147	106	102	105	137	68	107	95	105	67	1356	328	24·2	
Measles and German Measles ...	1312	1850	2009	1234	891	600	371	191	92	63	62	57	8732	585	6·7	
Diphtheria ...	9	7	6	2	2	10	3	8	2	4	6	7	66	65	98·5	
Puerperal Pyrexia ...	19	18	25	15	14	23	13	15	24	15	22	16	219	213	97·2	
Erysipelas ...	22	10	16	13	12	9	12	5	12	4	9	15	139	92	66·2	
Cerebro-spinal Fever	5	7	5	4	6	2	3	3	5	—	3	6	49	47	96·0	
Poliomyelitis and Polio-encephalitis	—	—	—	—	—	8	23	30	40	19	11	4	135	129	95·5	
Ophthalmia Neonatorum ...	7	9	19	6	16	15	15	10	11	8	8	8	132	105	79·5	
Pneumonia & Influenza Pneumonia	62	41	69	43	35	23	16	16	18	37	68	78	506	33	6·5	
Malaria ...	—	3	2	1	3	5	2	1	1	—	1	2	21	11	52·4	
Dysentery ...	16	13	12	4	4	14	4	5	5	22	41	63	203	156	76·8	
Encephalitis Lethargica ...	—	—	—	—	—	—	—	1	—	1	—	—	2	1	50·0	
Whooping Cough ...	46	58	82	100	163	250	338	354	386	516	747	700	3740	537	14·4	
Anthrax ...	—	—	1	—	—	—	—	1	—	—	—	—	2	2	100·0	
Chickenpox ...	30	14	19	25	30	34	16	16	7	5	8	30	234	134	57·3	
Food Poisoning ...	—	—	1	2	1	2	7	6	2	3	10	5	39	18	46·2	
TOTALS ...	1693	2186	2417	1555	1279	1101	961	730	712	792	1101	1058	15585	2466	15·8	

The numbers of patients admitted to hospital include the cases which occurred while in hospital.

Plague.

No case of plague occurred in the City during the year.

Smallpox.

No case of smallpox occurred in the City during the year.

Vaccination.

The number of vaccinations taking place in Liverpool during 1949 and 1950 were as follows:—

		<u>1949</u>	<u>1950</u>
Births	... ... ... ...	16,551	16,110
Number of primary vaccinations	... ...	7,592	9,214
Number of re-vaccinations	... ...	595	879
Number insusceptible	... ... ...	138	40
		8,325	10,133
Number vaccinated at clinics	... ...	5,097	5,168
Number vaccinated by private doctors	... ...	3,228	4,965
		8,325	10,133

Typhus Fever.

One case of typhus fever was reported during the year.

Anthrax.

Two cases of anthrax were treated during 1950 at Fazakerley Hospital, and both recovered.

Typhoid and Paratyphoid Fever.

During the year there occurred 4 cases of typhoid fever and 6 cases of paratyphoid "B" fever.

Register of Chronic Typhoid and Paratyphoid Excretors.

The following chronic excretors of typhoid or paratyphoid organisms are known and under observation. Bacteriological examination of faeces is carried out every six months.

Case Number	Sex	Age	Disease	Date of illness	Date faeces last positive
4	M.	62	Paratyphoid " B " fever	July, 1941	Jan. 1951
7	F.	49	"	July 1941	Jan., 1951
8	F.	46	"	Aug., 1941	Jan., 1951
13	M.	40	Typhoid Fever.	Not known	Jan., 1951
15	F.	55	Paratyphoid " B "	Oct., 1949	Jan., 1951
16	F.	25	"	Oct., 1949	Jan., 1951

Case No. 17 was found not to be excreting *Paratyhoid* "B" bacilli when examined in July and has been crossed off the list, and case No. 18 removed out of the district, the Medical Officer of Health of the new area being informed of the position.

Undulant Fever.

No case of undulant fever was reported during the year.

Diphtheria.

During 1950, 66 cases of diphtheria were reported, a case-rate of 0.08 per 1,000 of the population. Of these cases, 2 proved fatal, making a fatality rate of 3.0 per hundred cases and a mortality rate of 0.2 per 100,000 of the population.

AGES AT DEATH.

AGES OF NOTIFIED CASES.

PERCENTAGE FATALITY AT EACH AGE.

Scarlet Fever.

During 1950, 1,356 cases of scarlet fever were reported, a case-rate of 1.7 per 1,000 of the population. Of these cases none proved fatal.

AGES AT DEATH.

AGES OF NOTIFIED CASES.

3	30	100	184	170	629	167	48	17	8	—	—	—	1,356
35.9%					46.4	12.3				5.4%			

PERCENTAGE FATALITY AT EACH AGE.

Immunisation against Diphtheria.

TABLE IV.

NUMBER OF DIPHTHERIA IMMUNISATIONS.

Where or by whom immunised.	1925-39	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
IMMUNISATION CLINICS :												
Carnegie	3070	64	452	1503	205	81	32	—	—	—	—	—
Townsend Avenue	2279	167	1006	2287	688	468	385	559	476	534	436	290
Child Welfare Centres	4657	859	2617	14436	8271	7717	8875	8343	8006	9290	7783	5675
SCHOOLS :												
Public Elementary	37310	1738	2503	7926	12907	5430	6052	8409	5658	5510	3438	2787
Residential	3600	156	1021	39	378	253	408	209	51	—	33	—
Secondary	—	—	—	408	1235	154	718	244	—	—	—	71
HOSPITALS :												
Fazakerley	3935	113	66	111	69	76	68	43	17	10	21	6
Fever Hospitals—North, South and East	1550	123	50	46	40	44	30	45	38	33	3	—
Alder Hey	1119	76	47	131	120	77	61	42	24	13	24	118
Olive Mount	780	2	13	74	97	118	175	148	110	46	65	10
Other Hospitals	457	49	54	121	47	64	80	45	72	106	115	100
Miscellaneous	1244	8	1	45	19	6	—	11	8	—	—	—
Medical Practitioners	946	63	257	241	121	133	75	82	40	688	1617	206
TOTALS	60947	3418	8087	27368	24197	14621	16959	18180	14500	16230	13535	11211

GRAND TOTAL 229,261

In addition to the above immunisations, 6,897 previously immunised children received a reinforcing injection either at school or at one of the clinics.

TABLE V.

PERCENTAGE OF IMMUNISED CHILDREN AT VARIOUS AGE GROUPS.

Age at date of immunisation. First year.	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	Ratio of immunised to total population at end of year.
1 +	983	359	291	905	671	413	1096	1816	5816	4373	3552	2581	1101	4535	5614	5485	4617
2 +	943	340	461	262	304	282	851	2551	591	1123	1302	916	529	372	713	491	Total under 5 years of age 31.819, being 40.5% of the population of this age.
3 +	975	259	361	1433	124	193	999	2492	1094	329	732	635	380	376	254	354	
4 +	1686	513	698	710	453	102	1426	2400	1124	589	304	573	420	394	445	157	
5 +	5946	2291	1658	2286	1133	734	627	3243	1874	1231	1284	1044	1442	1460	1403	1176	
6 +	6744	2491	1820	2422	1042	771	1218	4344	1742	1020	1315	2019	582	1293	1108	908	Total 5-9 years of age 45.718, being 2.2% of the population of this age.
7 +	4681	1211	823	1110	581	284	689	2032	757	800	978	1334	662	360	1449	373	
8 +	1966	304	320	242	138	74	241	1469	1495	322	774	1052	806	769	196	307	
9 +	1028	75	110	99	26	32	168	1054	1550	593	342	994	561	573	306	127	
10 +	755	103	96	95	75	63	154	1061	1585	591	621	474	543	503	221	141	
11 +	899	124	115	113	90	77	182	1137	1876	550	602	664	232	293	126	194	Total 10-14 years of age 52.921, being 84.1% of the population of this age.
12 +	1003	137	128	126	100	85	216	1385	2265	509	630	363	162	32	55	104	
13 +	910	125	117	114	90	78	183	1236	2086	419	583	314	104	32	22	93	
14 +	200	27	25	20	17	40	213	478	46	73	144	22	38	50	28		
15 +	1254	172	160	158	124	106	260	433	424	328	290	238	180	182	199	318	
<i>Totals</i>	30126	8348	7501	9666	5106	3418	8081	27368	24197	14621	16959	18180	14500	16230	13535	11219	

Diphtheria Immunisation.

A new material, purified toxoid alum precipitated, was in use for immunisation against diphtheria in Liverpool from May, 1949, to March, 1951.

It was hoped that the new material, already proved to be of high immunising power, would give fewer reactions after injection than the older materials and that there would be no variation from batch to batch either in immunising power or in the number or severity of reactions.

Records were kept of all cases immunised with the new material either at school, in child welfare clinics, or by general practitioners, and it was endeavoured to follow up each case for six months after immunisation had been completed.

No conclusions could be drawn from the number of cases returned as inoculated by general practitioners as it was thought that record cards were not returned for all cases inoculated nor were all reactions reported. Similarly, though accurate records of all children inoculated at school were accumulated, it had to be left to the child to report of a reaction developed and this was not always done. Further, no six months' survey could be undertaken. However, the cases inoculated at Child Welfare Centres were supervised by the Health Visitors and complete records were obtained.

Tables I and II illustrate these remarks:—

TABLE I.

NUMBERS INOCULATED.

		First Injection	Second Injection	Stimulating Dose
C.W. Clinics—				
5	...	12,930	10,941	
15	...	945	813	{ 478
Schools	...	5,193	5,193	10,430
Practitioners	...	2,079	2,079	171
Total	...	21,147	19,031	11,079

TABLE II.

REACTIONS FOLLOWING INOCULATION.

	Local Reactions			General Reactions		
	1st Inocul.	2nd Inocul.	Stimulat. Dose	1st Inocul.	2nd Inocul.	Stimulat. Dose
C.W. Clinics	156	97	15	103	36	3
Schools	2	0	47	3	1	9
Practitioners	3	0	0	0	0	0
Total	161	97	62	106	37	12

The local reactions were recorded as slight in eighty-two cases and as severe in twenty-one cases; two children developing abscesses. These figures refer to Child Welfare cases only. The general reactions recorded were many and varied and it is considered that only approximately 60 per cent. of them were actually related to the inoculation.

A very large number of conditions were reported as occurring in the six months follow-up period, 684 in all in the 12,237 children to whom an immunising course or a stimulating dose were given. 381 of the conditions reported were common fevers and 139 common respiratory conditions. Four cases of Anterior Poliomyelitis were reported. One case only of Diphtheria, confirmed as such, occurred in this group of children.

There seemed to be some difference in the number of reactions caused by various batches of material but the numbers of cases are perhaps too small to draw definite conclusions. The following table shows the comparative results in the batches used.

A COMPARISON BETWEEN THE VARIOUS BATCHES OF P.T.A.P. USED WAS ATTEMPTED AND THE RESULTS ARE TABULATED BELOW.

Batch 3321				Batch 3326				Batch 3395				Batch 3400				Batch 3427				Batch 3432					
1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.	1st	2nd	Stim.		
No. of Inoculations	3141	2685	75	1404	668	49	3064	2811	72	1702	1552	57	1718	1572	60	2201	1762	89	645	709	76	76	76	.	
Reaction ...	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G	
Numbers ...	13	20	16	5	6	2	21	13	13	4	2	2	29	17	20	8	2	0	1	33	11	6	2	0	0
Total Inoculations	5,901				2,121				5,947				3,311				3,350				4,052				
Total Reactions ...	35 local				25 gen.				36 local				19 gen.				51 local				18 local				
Percentage593	.424				1.696				.895				.857				.544				.627			
Overall Percentage ...	1.016	2.591				1.277				1.283				.806				.634				.210			
Gen. ...	3 local				13 gen.				21 local				6 gen.				39 local				3 local				

Measles.

During 1950, 8,621 cases of measles were reported, representing a case-rate of 10·7 per 1,000 of the population. The number of deaths was 4, making a fatality-rate of 0·05 per 100 cases and a mortality-rate of 0·5 per 100,000 of the population.

DEATHS FROM MEASLES.

AGES AT DEATH.

Under year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
2	—	1	—	—	1	—	—	—	—	—	—	—	4

AGES OF CASES.

547	1250	1629	1755	1253	2093	53	41	8621
-----	------	------	------	------	------	----	----	------

PERCENTAGE FATALITY AT EACH AGE.

0·4	—	0·1	—	—	0·05	—	—	0·05
-----	---	-----	---	---	------	---	---	------

Whooping Cough.

During 1950, 3,740 cases of whooping cough came to the notice of the Health Department, a figure representing a case-rate of 4·7 per 1,000 of the population. Of these cases 20 proved fatal, corresponding to a death-rate of 2·5 per 100,000 of the population.

Number of deaths from Whooping Cough at various age periods during 1949.							Total deaths all ages.	Deaths expressed as a percentage of total deaths.						
under 1 year.	1+	2+	3+	4+	5+	10+		under 1 year.	1+	2+	3+	4+	5+	10+
9	10	1	—	—	—	—	20	45·0	50·0	5·0	—	—	—	—

Cerebro-spinal Fever.**TABLE VII.**

CASES AND DEATHS DURING 1950 AND NINE PREVIOUS YEARS.

		1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
Cases	...	453	201	83	58	47	48	72	47	39	49
Deaths	...	79	38	22	21	9	13	13	11	15	12
Fatality-rate per 100 cases		17·4	18·9	26·5	36·2	19·1	27·1	18·1	23·4	38·5	24·5

Poliomyelitis.

During the year there occurred 135 cases of poliomyelitis with 6 deaths.. The following table gives the age distribution of the notified cases:—

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	Total
9	31	28	12	9	16	7	5	14	3	1	135

Deaths from Influenza and other Respiratory Diseases.**TABLE VIII.**

	Yearly average number of deaths.	Percentage proportion to all deaths.	Respiratory death-rate per 1,000 population.	Death-rates compared with the 1871-80 death-rate called 100.
1871-80	2,976	20·2	5·7	100
1881-90	3,251	23·2	5·9	104
1891-1900	3,582	24·6	5·9	104
1901-10	3,299	21·8	4·5	79
1911-20	3,648	27·3	4·7	83
1921-30	2,904	24·7	3·5	61·4
1931-40	1,762	15·1	2·1	36·8
1941...	2,226	16·8	3·2	56·1
1942...	1,403	14·9	2·1	36·8
1943...	1,856	19·1	2·8	49·1
1944...	1,344	14·9	2·0	35·1
1945...	1,620	17·0	2·3	40·3
1946...	1,462	15·1	2·0	35·1
1947...	1,675	16·5	2·2	38·6
1948...	1,198	13·3	1·5	26·3
1949...	1,590	17·0	1·9	33·3
1950...	1,352	14·5	1·7	29·8

Epidemiology of the Influenza Epidemic in Liverpool in 1950-51.

By ANDREW B. SEMPLE, M.D., D.P.H., Deputy Medical Officer of Health
for the City and Port of Liverpool.

The epidemic of influenza which occurred in Liverpool in the last week of 1950 and the early weeks of 1951, although of short duration, was for three consecutive weeks the cause of the highest weekly death roll, apart from aerial bombardment, in the city's vital statistics records since the great cholera epidemic of 1849.

HISTORY OF OUTBREAK. The first intimation that there was some epidemic activity of influenza was information from several general practitioners in the last week of 1950 that their daily visiting lists were increasing to an unusually high figure for the time of the year. It would appear that this increase started just after Christmas and the beginning of the epidemic in Liverpool was approximately the 27th December, 1950. The total deaths in Liverpool for the week ended 30th December, 1950, was 301 as compared with 226 for the corresponding week of 1949. The main onslaught of the epidemic struck the city in the first week of the year. As influenza is not a notifiable disease, no accurate morbidity figures were available, but reports of high sickness rates from Corporation departments such as the Passenger Transport Department, clearly showed that influenza was widespread. The figures set out in Table I show the high deaths for the week ended 6th January, 1951—the total deaths, 658 in number, exceeded the highest number experienced in the worst week of 1918-1919 epidemic (638). In the next week (ending 13th January, 1951) the deaths from all causes rose to 894. This was the peak and the epidemic then gradually declined till by the end of January, conditions approached normal.

The causal agent was shown to be *Virus A prime* type which was also associated with an outbreak in the Tyneside area some weeks earlier. The method of conveyance of infection to Merseyside is unknown and early cases and deaths occurred in all parts of the Liverpool city area about the same time.

CLIMATIC FACTOR. The epidemic started during a period of intensely cold weather, the coldest spell in Merseyside for a number of years, the sequence of events being, cold weather, influenza epidemic with large numbers of cases followed by a high death rate. As milder weather super-

vened, the epidemic declined. This has been set out in Table II and Graph.

AGE AND SEX—DEATHS. Table III shows that during the six weeks' epidemic period a total of 3,000 deaths occurred as compared with an average of 1,292 in the corresponding weeks for the previous five years. The number of females dying during the epidemic was 1,542 as compared with 1,458 males. It should be noted that this predominance was due to a greater number of deaths of aged women in the 75 years and over age group, probably reflecting to some extent that women live to greater ages than men, but more important as it underlines the need for some definite policy in dealing with epidemic influenza. More aged women live by themselves in the community and special arrangements must be made for their care in an epidemic of this type.

Table III also shows the high incidence of deaths in the older age groups, 66·5 per cent. of the deaths during the epidemic occurred in persons over the age of 65 years. The main causes of death in the elderly were respiratory and cardiovascular sequelae to the virus infection. Pneumonias with profuse secretion and toxic myocarditis were frequent causes of death. Several practitioners mentioned the occurrence in a few younger patients of a marked cyanosis similar to that reported in the 1918-1919 epidemic. The disease mainly affected individuals in adult life; and infants and children to a lesser extent.

Table IV shows the weekly death rates per million of the population as compared with corresponding weeks of 1949-1950, showing the considerable increase during the epidemic.

Table V sets out the death rate per million of the population for a number of centres of population in Lancashire and Cheshire. It will be noted that the Merseyside towns had the highest death rates. The high death rate of Southport was probably due to the relatively higher proportion of elderly persons resident in this town.

DISCUSSION. The main difficulties which the health and sickness services had to face were threefold.

(1) **LACK OF ACCURATE INFORMATION.** As influenza is not a notifiable disease no accurate morbidity data was available and this made accurate

estimation of the magnitude of the epidemic impossible. Some information on this would have been most helpful in the early stages of the epidemic. I would suggest that when influenza is prevalent, if the Ministry of National Insurance could agree to let the Medical Officer of Health for the area have some idea of the day-to-day medical certificates with the nature of the incapacity diagnosed as influenza, this would be of assistance. This source of information would have the virtue of saving the general practitioners extra work.

(2) OVERWHELMING CALLS ON GENERAL PRACTITIONERS AND THE DOMICILIARY SERVICES. During the epidemic the general practitioners exerted themselves to meet the emergency and worked unceasingly to alleviate the sufferings of their patients. For example, one doctor and his assistant in an industrial practice, who kept records during the epidemic, saw between them 1,821 new cases diagnosed as influenza, among which 43 cases of pneumonia occurred. Of the influenza cases seen by these two doctors only 6 were admitted to hospital. Similarly, the home nursing and domestic help services were taxed to their utmost. During January, 1951, the number of new requests for the services of a district nurse in Liverpool was 3,741 as compared with 2,420 in 1950, and new requests for domestic help were 398 in 1951 as compared with 262 in January, 1950.

(3) DIFFICULTY OF GAINING ADMISSION TO HOSPITALS. Owing to lack of information no special arrangements were made by hospitals in Liverpool early in the outbreak to cope with the sudden demand for hospital beds. However, it did not take long for the Medical Superintendents of the former municipal hospitals to realise the true state of affairs and on their own initiative they arranged for the provision of additional hospital accommodation for complicated cases of influenza and for cases where social need required the admission to hospital. There is no doubt that the action of these Medical Superintendents was an important factor in reducing the mortality from this epidemic.

In my view, the great lesson to be learnt from the recent influenza outbreak in Liverpool is that the disease can strike so suddenly that the health services must be prepared beforehand to deal with the epidemic. Additional assistance for practitioners, domestic helps and district nurses should be planned, and above all a definite hospital policy formu-

lated to provide, in the event of an outbreak, as many beds as possible for influenza cases in need of hospital care. Medicine must subserve the needs of the community and in an influenza epidemic the need for every bed to be used to save life is paramount.

March, 1951.

City of Liverpool—Influenza Epidemic.

TABLE I.

TOTAL DEATHS AND DEATHS FROM RESPIRATORY AND CARDIOVASCULAR DISEASES
IN AGE GROUPS.

Week ended		Under 1 Yr.	1- 14	15- 54	55- 64	65- 75	Over 75	Totals
23.12.50	Total Deaths	20	10	28	40	72	74	244
	Influenza and Influenzal Pneumonia ...	—	—	—	—	—	2	2
	Other Pneumonias	3	3	1	3	7	8	25
	Bronchitis	—	—	1	5	7	5	18
	Cardiovascular Diseases ...	—	—	5	11	42	41	99
30.12.50	Total Deaths	13	2	48	56	86	96	301
	Influenza and Influenzal Pneumonia ...	—	—	2	5	7	2	16
	Other Pneumonias	3	1	1	1	5	7	18
	Bronchitis	—	—	4	12	12	8	36
	Cardiovascular Diseases ...	—	—	15	19	38	54	126
6.1.51	Total Deaths	18	7	84	121	218	210	658
	Influenza and Influenzal Pneumonia ...	—	1	8	12	37	27	85
	Other Pneumonias	4	3	9	13	27	25	81
	Bronchitis	1	—	14	30	51	37	133
	Cardiovascular Diseases ...	—	—	14	28	59	91	192
13.1.51	Total Deaths	22	12	106	155	273	326	894
	Influenza and Influenzal Pneumonia ...	1	—	27	35	58	81	202
	Other Pneumonias	7	3	13	13	33	42	111
	Bronchitis	2	—	13	32	52	41	140
	Cardiovascular Diseases ...	—	—	15	45	81	100	241
20.1.51	Total Deaths	15	6	52	90	177	241	581
	Influenza and Influenzal Pneumonia ...	1	—	13	22	33	45	114
	Other Pneumonias	7	—	3	10	15	33	68
	Bronchitis	2	—	5	19	36	35	97
	Cardiovascular Diseases ...	—	—	6	22	51	87	166
27.1.51	Total Deaths	12	4	43	40	98	125	322
	Influenza and Influenzal Pneumonia ...	—	—	4	5	19	22	50
	Other Pneumonias	—	1	2	3	7	13	26
	Bronchitis	1	—	1	5	15	13	35
	Cardiovascular Diseases ...	—	—	7	18	36	52	113

TABLE II.

SEQUENCE OF EVENTS IN RELATION TO CLIMATE, SICKNESS AND DEATHS.

Week Ended	Weekly mean temperature in Fahrenheit	Total Deaths	Respiratory Deaths	National Health Insurance new sickness claims
2.12.50	41.7 (0.9)*	214	42	3,110
9.12.50	39.5 (2.6)	205	38	2,958
16.12.50	34.7 (7.0)	217	43	2,518
23.12.50	35.9 (5.6)	244	48	1,571
30.12.50	33.8 (7.5)	301	60	9,806
6.1.51	36.6 (4.4)	658	301	22,320
13.1.51	40.9 (0.9)	894	476	11,447
20.1.51	44.1 (+3.4)	581	286	6,081
27.1.51	38.7 (1.9)	322	118	3,704
3.2.51	36.8 (3.7)	282	89	3,792

* Figure in brackets indicate the amount the weekly mean temperature was below the average of previous 20 years.

TABLE III.

DEATHS FOR 6 WEEKS' EPIDEMIC PERIOD IN AGE AND SEX GROUPS WITH PERCENTAGES OF TOTAL DEATHS IN EACH AGE GROUP.

		Under 1 year	1-14	15-54	55-64	65-75	Over 75	Total
Males	... ...	59	18	207	288	471	415	1,458
Females	... ...	41	23	154	214	453	657	1,542
Totals	... ...	100	41	361	502	924	1,072	3,000
Percentage of Total Deaths	...	3.33	1.37	12.04	16.73	30.80	35.73	100.00

TABLE IV.

WEEKLY DEATH RATES PER MILLION OF POPULATION AS COMPARED WITH
CORRESPONDING WEEK OF 1950.

Week ending	Rate per 1,000,000 population	Corresponding week 1949 50
23.12.50	15,898	12,916
30.12.50	19,612	14,886
6.1.51	42,872	11,268
13.1.51	58,249	11,798
20.1.51	37,855	11,136
27.1.51	20,980	14,498

TABLE V.

LANCASHIRE AND CHESHIRE POPULOUS AREAS.

	Average weekly death rate per million population for six weeks ended 27.1.51
Liverpool	32,594
Birkenhead... ...	30,977
Wallasey	34,646
Bootle	28,139
Chester	26,715
St. Helens	28,541
Southport	32,611
Manchester... ...	23,705
Preston	25,775

Dysentery.

During 1950, 200 cases of bacillary dysentery were reported in the city—Sonne 163, Flexner 10, and clinical diagnosis only, 27. In addition, there were 3 cases of amoebic dysentery.

CREMATION.

The number of cremations which took place at the Liverpool Crematorium during 1950 was 1,449, the highest number yet recorded.

MATERNITY AND CHILD WELFARE.

VITAL STATISTICS.

Live births	...	...	16,110	Live birth rate	...	...	20·1
Still-births	...	...	375	Still-birth rate	...	...	0·5
				Total births	...	...	16,485
				Infant Mortality rate	...	...	37
				Neo-natal Mortality rate	...	...	19·6
				Maternal Mortality rate	...	...	0·42

THE MIDWIFERY SECTION.

During the year, 295 midwives gave the required notice under Section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city. The number of municipal midwives at the end of 1950 was 52. They attended :—

Midwifery cases	...	...	2,817
Maternity cases	...	...	586
		—	3403

: 6

Statement of Notifications of Live and Still Births received during the year 1950.

	Live Births.	Still Births.	Total.	Still Births per cent. of Total.
Midwives (Municipal)	2,947	39	2,986	1·3
,, (Independent) ...	39	1	40	2·5
Medical Practitioners ...	1,020	15	1,035	1·4
Liverpool Maternity Hospital ...	2,491	85	2,576	3·3
Other Hospitals ...	10,640	280	10,920	2·6
District Homes ...	791	10	801	1·2
	17,928	430	18,358	2·3

The number of still-births notified was 430, of which 71 were notified by midwives. Enquiries were made into the circumstances of all still-births.

Visits paid by Midwifery Staff.

Routine and special visits to midwives	...	...	...	...	1,613
Visits regarding claims for fees from medical practitioners for attendance in emergency cases	...	...	...	...	1,213
Visits in respect of ophthalmia neonatorum	...	...	...	...	5,781
Special visits (puerperal pyrexia, venereal diseases, etc.)	...	...	...	...	524

Medical Assistance.

Under the rules of the Central Midwives Board, midwives sought medical aid in 1,499 cases—1,100 mothers and 399 children.

Consultant Services.

The total number of occasions on which the services of a consultant obstetrician were requisitioned in connection with cases of puerperal emergencies or complications during pregnancy was 71.

Prevention of Spread of Infection.

Four municipal midwives were suspended from practice in order to prevent the spread of infection.

Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926, 1928 and 1939.

The number of cases of puerperal pyrexia notified during the year was 219. Of course, 21 were admitted to or occurred in hospitals, and 8 occurred in the practice of midwives, and in 4 cases nurses were provided.

Maternal Mortality.

The number of live and still births registered in the city, together with maternal deaths and maternal death-rates, are as follows:—

Year.	BIRTHS REGISTERED.			MATERNAL MORTALITY.					
	Live Births.	Still Births.	Total Births.	Puerperal Sepsis.		Other Puerperal Causes.		Total.	
				Deaths.	Rate per 1,000 Total Births.	Deaths.	Rate per 1,000 Total Births.	Deaths.	Rate per 1,000 Total Births.
1930	18,881	774	19,655	16	0·81	59	3·00	75	3·81
1931	18,626	722	19,348	20	1·03	35	1·81	55	2·84
1932	18,149	827	18,976	16	0·84	35	1·85	51	2·69
1933	16,929	680	17,609	29	1·65	31	1·76	60	3·41
1934	17,593	685	18,278	25	1·37	26	1·42	51	2·79
1935	17,347	749	18,096	29	1·60	30	1·66	59	3·26
1936	17,403	708	18,111	20	1·10	44	2·43	64	3·52
1937	16,728	618	17,346	10	0·58	30	1·73	40	2·31
1938	16,175	639	16,814	11	0·65	22	1·31	33	1·96
1939	15,614	631	16,245	5	0·32	24	1·54	29	1·86
1940	15,016	519	15,535	7	0·45	24	1·56	31	2·01
1941	13,291	508	13,799	9	0·68	23	1·74	32	2·42
1942	13,729	552	14,281	14	0·98	20	1·40	34	2·38
1943	14,432	485	14,917	12	0·80	22	1·47	34	2·27
1944	15,412	492	15,904	13	0·82	18	1·13	31	1·95
1945	14,784	431	15,215	7	0·46	16	1·05	23	1·51
1946	18,528	539	19,067	2	0·10	17	0·89	19	0·99
1947	19,904	514	20,418	1	0·05	16	0·78	17	0·83
1948	17,695	479	18,174	3	0·16	11	0·60	14	0·77
1949	16,551	358	16,909	4	0·24	5	0·29	9	0·53
1950	16,110	375	16,485	1	0·06	6	0·36	7	0·42

The table above shows a very remarkable decline in maternal mortality during the past 20 years. It will be seen that this decline has affected both deaths from puerperal sepsis and also those from other causes. The death-rate from puerperal sepsis in Liverpool has normally been lower than in the country as a whole.

The decrease has been particularly rapid during the last few years and unquestionably this is due to the extending use of sulphone drugs and penicillin. The decline in other puerperal causes has been more consistent but has not reached the same degree. It is probable that the table as a whole shows a marked improvement in the care of both the expectant mother and of the patient in labour. This is an achievement of which the City can well be proud. Amongst the causes that are operative in the decline of deaths from other puerperal causes, improved nutrition may be mentioned.

Special Investigation of Maternal Deaths.

As a result of inquiries it was found that 18 deaths occurred owing to pregnancy, child birth or concurrent diseases, such as heart disease or lung disease associated with pregnancy :—

Class I—Deaths directly due to childbearing	7
Class II—Deaths not primarily due to pregnancy ...	11

Ophthalmia Neonatorum.

Inflammation of the eyes of the newly-born.

The number of cases brought to the notice of the department and treated during the year was 872, namely :—

Mild Cases	667
Severe cases	138
Cases brought forward from previous year ...	67
Loss of sight	—
 Total ...	872

During the year, 10 babies were admitted to hospital.

Arrangements are made with the City Bacteriologist to examine the discharge from inflamed eyes in the newly-born, namely :—

No. of cases brought to the notice of the department.	Cases from which specimens were examined by the City Bacteriologist and at Hospital.	No. of cases of positive Gonorrhœa.	Percentage to total cases examined.	Percentage to total notifications.
805	133	10	7·5	1·2

Nursing Homes.

Five registrations were cancelled during the year. The nursing homes on the register at the end of the year numbered 14, the approximate number of beds being 189. Babies born in nursing homes numbered 437, including 3 twin births.

THE HEALTH VISITORS' SECTION.

Ante-Natal and Post-Natal Clinics.

Total number of centres at which ante-natal clinics are held	23
Number of clinic sessions held per week	47
,,,, new cases attending ante-natal clinics	8,432
Total attendance at ante-natal clinics	46,057
,,,, „ post-natal „ „ „	1,515

Child Welfare Clinics.

Total number of centres at which child welfare clinics are held	23
Number of clinic sessions held per week	45
,,,, new cases—Under 1 year of age	9,709
Aged 1-5 years	486
Total attendances—Under 1 year of age	91,562
Aged 1-5 years	13,173

Statistics relating to Home Visits.

Visits to expectant mothers by health visitors	7,669
Number of births visited during the year	15,573
Re-visits to infants during the 1st year	76,268
,,,, „ aged 1 year to 5 years	136,109
Visits to children discharged from hospitals	1,860

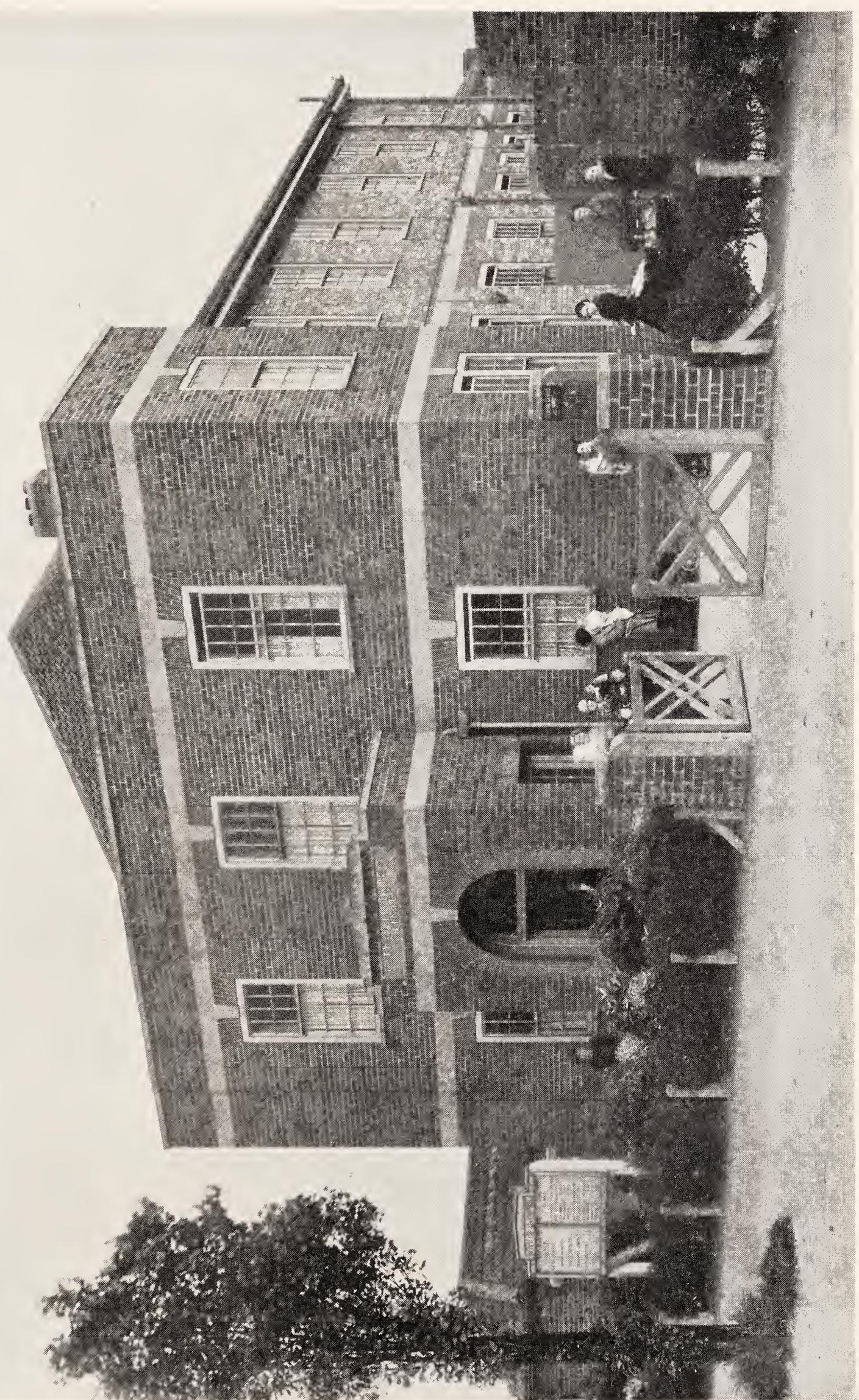
Visits to cases of Infectious Disease—

Visits to cases of measles	9,878
,, „ „ pneumonia	—
,, „ „ infantile diarrhoea	99
Enquiries into deaths due to diarrhoea	53

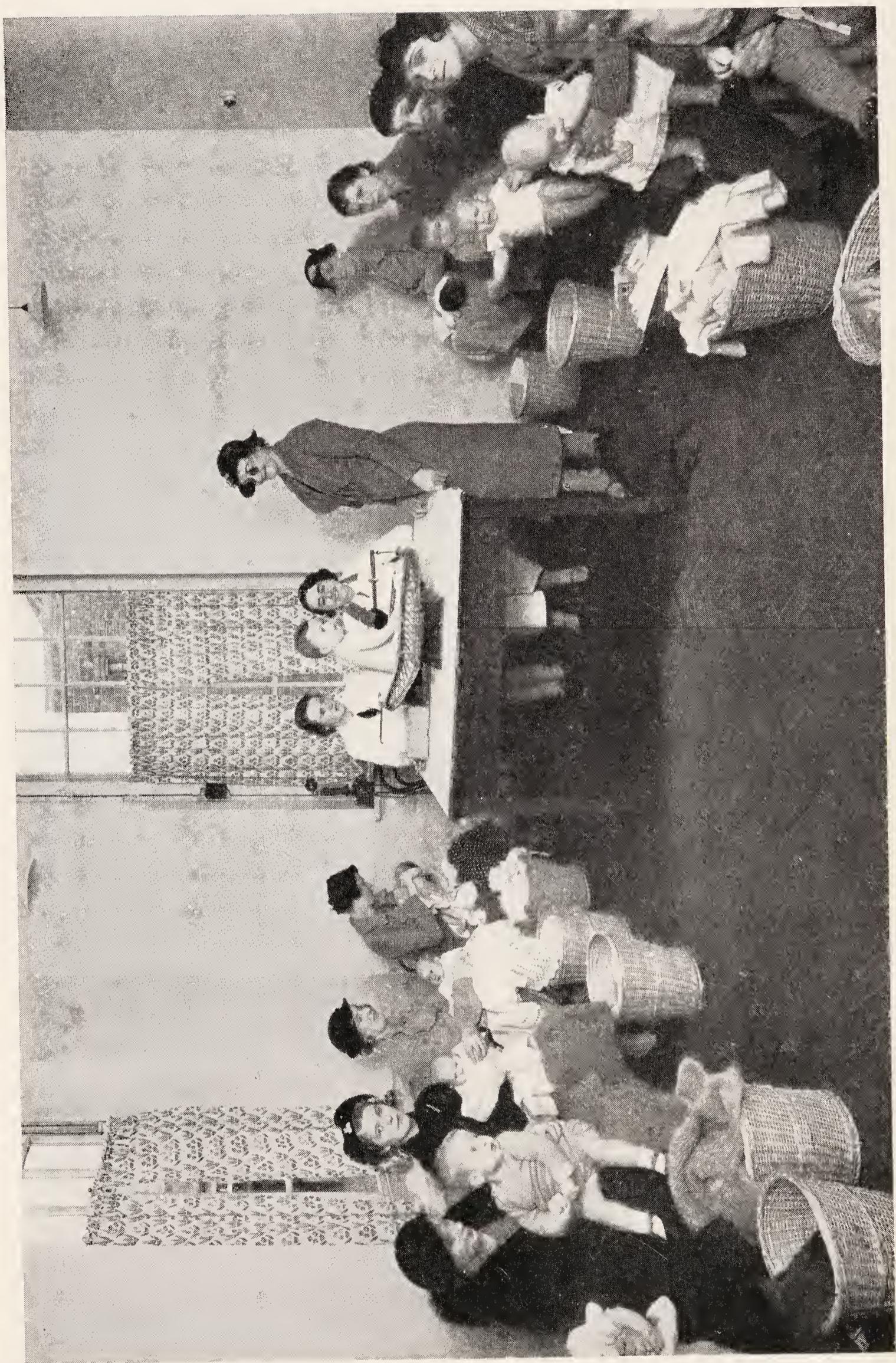
Children under five years of age were referred for special treatment to the School Health Department as follows:—

Defective vision	431
Otorrhœa	4
Orthopædic defects	261

MATERNITY AND CHILD WELFARE AND SCHOOL HEALTH CLINIC, NORRIS GREEN, LIVERPOOL, 11



MATERNITY AND CHILD WELFARE CLINIC.—WEIGHING ROOM



Care of Illegitimate Children.

During the year, the City Council continued the payment of grants to the voluntary organisations undertaking work in connection with unmarried mothers and their babies.

Co-operation between the staff of the Maternity and Child Welfare Department and the various voluntary workers was maintained. A live register of all illegitimate children enables this surveillance to be continuous.

Neo-natal Mortality.

The number of neonatal deaths amounted to 316, equal to a rate of 19·6 per thousand live births registered. Special enquiry was made into the deaths of all children who died within 28 days after birth.

Premature Infants.

On discharge from hospital, information relating to the condition and feeding of premature children is forwarded to the Medical Officer of Health. This ensures an early visit to the home from a health visitor or midwife, whichever is more appropriate to individual needs, and continued care is given until the mother is able to look after the child herself.

Evidence points to maternal nutrition being an important factor in the causation of prematurity. With this in view, advice is tendered in the ante-natal clinics to expectant mothers on their feeding during pregnancy, and every endeavour is made to persuade them to take up the priority foods and vitamin preparations available to them.

Dental Treatment of Expectant and Nursing Mothers and Pre-School Children.

Little development was found possible in the arrangements for the dental treatment of expectant and nursing mothers during the year owing to the continued shortage of staff.

The rooms at the Westminster Road Welfare Centre and Day Nursery, which have been in process of adaptation as a dental clinic, were equipped and opened in the New Year, and a weekly session of dental examination and treatment has been maintained there during the year.

The part-time Dental Officer employed by the department found himself able to devote two additional sessions each week to this work, and these two sessions have been divided between providing treatment at the Westminster Road Clinic and maintaining an examination session at the St. Anne Street Centre. This latter session is intended as the beginning of an implementation of the Ministry's requirement that all women attending Ante-Natal Centres shall receive a dental examination by a Dental Officer, and is carried out in co-operation with the Medical Officer at the Centre who is present at the same time. It is intended that this system shall apply at all centres as soon as the necessary dental staff becomes available, and it is hoped by this means that, in the future, the combined advice and exhortations of Medical Officer and Dental Officer will result in preventive and conservative dentistry being accepted in a much greater degree by these patients.

In the meantime, however, the staff shortage has prevented this system being extended to any other centre and has, unfortunately, precluded the possibility of carrying out, in the clinics, the conservative work which has been found to be necessary. The only action it has been possible to take has been to advise the mothers as to the nature of the conservative treatment which is thought advisable, and to urge them to obtain this from private practitioners under the National Health Service.

In this respect there is reason to believe that, with the lessening of the demand upon the services of these practitioners by other sections of the community, more of these mothers are now obtaining treatment privately, but this belief is, unfortunately, not capable of statistical proof.

The actual work that has been carried out by the Corporation staff in the dental clinics has, therefore, again been limited to the relief of pain and the alleviation of septic conditions in the mouth and, in suitable cases, the provision of dentures in the clinics by the part-time Dental Officers under National Health Service arrangements.

The amount of work carried out in the clinics may be summarised as follows:—

	Total attendances.	Teeth extracted.	Fillings.	Scalings.
Expectant mothers ...	1,405	5,028	—	—
Nursing mothers ...	743	2,369	—	—
Children under 5 ...	141	303	—	—

Day Nurseries.

The following nurseries were available for the children of women in employment or who, for domestic reasons, could not care for their children themselves:—

	Accommodation for					
Banks Road Hut, Garston (19)	50	children
25, Derwent Road (13)	67	,
1, The Elms, Dingle (8)	36	,
18, Great George Square (1)	74	,
25, Grove Park, Lodge Lane (8)	58	,
12, Holly Road, Fairfield (7)	74	,
Mill Road Nurses' Home (6)	70	,
Orwell Road Hut, Kirkdale (4)	50	,
Salisbury Street Council School, Everton (3)	63	,
5/7, Swiss Road, Fairfield (6)	60	,
97/99, Upper Canning Street (8)	62	,
Wavertree Playground Hut (15)	50	,
262/264, Westminster Road, Kirkdale (4)	45	,
1, Rose Lane, Mossley Hill (18)	42	,
36, Upper Parliament Street (8)	50	,

Domestic Help Service.

The Domestic Help Service has proved very useful and has been greatly appreciated.

During the year 1950, domestic help was provided in 1,596 cases, including 566 old age pensioners.

At the end of the year, there were 50 domestic helps on the whole-time staff and 49 on the part-time staff.

Infestation by Head Lice.

Health visitors continue to give increased attention to infestation by head lice of children under the age of five years. Nursery Matrons and school nurses have been asked to refer to the health visitors those families from which lice-infested children have attended nurseries or schools.

It has always been the practice to examine children where the personal cleanliness of the family is in doubt, but it is not always easy to obtain the co-operation of the mother and older members of the family.

Between 1st January and 31st December, 1950, 313 children under the age of five years were found by the health visitors to be verminous. In all cases, advice was given as to cleanliness and 253 of the mothers (or guardians) agreed to carry out instructions as to disinfestation. In 60 cases, however, they preferred to go to a cleansing station. In a few instances, improvement was maintained, but a hard core is still unsatisfactory. This is a problem which has engaged the attention of health visitors and school nurses for many years, and the difficulties in dealing with people who have no desire to be clean are increased by present conditions, and to the fact that many women are engaged in work, whilst at the same time endeavouring to carry on their home duties. In such families, the children are frequently not well cared for, especially in regard to personal hygiene.

The heads of 99 mothers were cleansed—90 at home and 9 at cleansing stations.

Number of families still needing constant supervision = 117.

WELFARE SERVICES.

The National Assistance Act, 1948 came into operation on 5th July, 1948, and the Public Health Department assumed responsibility for the organisation and administration of services provided by the Council under this Act. A Welfare Services Section has been formed and its main functions include—

- (a) The provision of :
 - (i) residential accommodation for persons who by reason of age, infirmity or any other circumstances are in need of care and attention which is not otherwise available to them;
 - (ii) temporary accommodation for persons who are in urgent need thereof owing to circumstances which could not reasonably have been foreseen such as fire, flooding or eviction.
- (b) Welfare arrangements for blind, deaf, dumb and crippled persons.
- (c) Assistance to voluntary organisations which provide recreation and meals for old people.
- (d) Registration and inspection of disabled persons and old persons' homes.
- (e) Registration of charities for disabled persons.
- (f) Removal to suitable premises of persons in need of care and attention.
- (g) Protection of movable property of persons admitted to hospital or to accommodation provided under Part III of the Act.
- (h) The burial or cremation of the dead where no other person is making suitable arrangements.

A Chief Welfare Officer was appointed to control the Welfare Services Section and commenced duty on 1st February, 1949. Three additional Welfare Visitors were appointed during the year, bringing the total visiting staff to six. A central office staff establishment for the Welfare Services Section was also approved by the City Council.

When the Act came into operation residential accommodation was provided in the following establishments:—

Kirkdale Homes	...	...	...	1,142 beds*
(now re-named Westminster House).				
New Grafton House	...	...	...	36 ,,
Belmont Road Hospital	...	...	...	121 ,,
(now re-named Newsham General Hospital).				

*(An additional 389 beds at this establishment are reserved for the use of Regional Hospital Board patients.)

Westminster House was very much overcrowded and the Council's scheme for the exercise of their functions under Section 21 of the Act provided that every effort should be made to reduce the number of persons maintained in that establishment as soon as possible.

During the year additional accommodation was provided at two houses, the total accommodation at the smaller hostels then being:—

Moreno House	...	...	...	30 beds
New Grafton House	...	...	...	70 ,,
Park House	...	...	...	21 ,,
New Parkfield House	...	...	...	26 ,,
Beechley	...	...	...	12 ,,

Every effort has been made to provide additional accommodation by the acquisition of large houses suitable for conversion into homes for old people, and by seeking authority to build a new model hostel for 50 persons. The Ministry of Local Government and Planning have agreed to the borrowing of a sum of money to purchase land for the site of the model hostel, and it is hoped that a starting date for the scheme will be announced in due course. A project for a further new model hostel is also under consideration.

The adaptation of three houses has been approved by the City Council, and these premises, together with additional rooms at New Grafton



AGED PERSONS' HOSTEL.—“MORENO,” MOSSLEY HILL, LIVERPOOL, 18

AGED PERSONS' HOSTEL.—ONE OF THE SITTING ROOMS FOR RESIDENTS AT "MORENO"



House and Beechley, will provide accommodation for a further 181 persons.

The opening of these small homes will make it possible further to reduce the number of beds in occupation at Westminster House.

Temporary accommodation for evicted families has, since 5th July, 1948, been provided in the former Casual Wards at Newsham General Hospital. During the year, owing to an increase in the numbers of persons requiring to be accommodated, the former Relief Office at Walton Village was brought into use for this purpose.

RESIDENTIAL ESTABLISHMENTS.

STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Establishment.	Remaining 31/12/49.	Admitted.	Discharged.	Died.	Remaining 31/12/50.
Westminster House	998	510	394	155	959
New Grafton House	70	22	22	—	70
Moreno House ...	29	8	8	2	27
Park House ...	18	13	10	—	21
Beechley	—	12	4	—	8
New Parkfield House	—	19	1	—	18
TOTAL ...	1,115	584	439	157	1,103

TEMPORARY ACCOMMODATION.

PROVIDED UNDER SECTION 21 (1) (b) OF THE NATIONAL ASSISTANCE ACT.

Establishment.	Remaining 31/12/49.	Admitted.	Discharged.	Died.	Remaining 31/12/50.
Newsham General Hospital ...	102	942	901	—	143
100, Walton Village	—	45	17	—	28
TOTAL ...	102	987	918	—	171

PERSONS MAINTAINED IN ESTABLISHMENTS PROVIDED BY OTHER AUTHORITIES
AND VOLUNTARY ORGANISATIONS.

STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Authority or Organisation.	Remaining 31/12/49.	Admitted.	Discharged.	Died.	Remaining 31/12/50
North Regional Association for the Blind	1	—	—	—	1
Herefordshire County Association for the Blind	1	—	—	—	1
Manchester and Salford Society for the Blind	1	—	—	—	1
Catholic Blind Asylum, Liverpool	24	—	2	2	20
Jewish Blind Home, Surrey ...	—	1	—	—	1
Home for the Deaf, Leeds ...	—	1	—	1	—
Home for Epileptics, Maghull...	45	6	1	1	49
Langho Epileptic Colony ...	16	4	3	—	17
David Lewis Epileptics Colony	2	2	—	—	4
Cotebrook Home for Cripples...	1	—	—	—	1
Turner Memorial Home ...	14	7	3	—	17
Mary Fowler Salvation Army Home	18	3	—	3	18
Elizabeth Walker Salvation Army Home	4	3	—	—	7
Methodist Home for the Aged,	8	8	—	1	15
Home for Deaf Women, Barrowford	1	—	—	—	1
Home for Deaf Women, Bath	1	—	—	—	1
Church Army Home, Bootle ...	1	1	—	—	2
Liverpool Personal Service Society	1	—	1	—	—
Home for Aged Jews, Liverpool	—	20	1	—	19
Convent of the Good Shepherd, Liverpool	—	9	—	—	9
W.V.S. Home, Liverpool ...	—	4	2	—	2

Authority or Organisation.	Remaining 31/12/49.	Admitted.	Discharged.	Died.	Remaining 31/12/50
British Legion Home, Lister House ...	—	4	—	—	4
Red Cross Home, Portmadoc ...	—	1	1	—	—
Flintshire County Council ...	1	—	—	—	1
Bristol Corporation ...	1	—	—	—	1
Lancashire County Council— Limes Hostel ...	1	—	—	—	1
Whiston Institution ...	1	—	1	—	—
Ormskirk Institution ...	—	2	—	1	1
Bootle Corporation ...	2	—	—	—	2
Southport Corporation ...	1	—	—	—	1
Westmorland C.C. ...	1	—	—	1	—
Darlington Corporation ...	4	—	4	—	1
Portsmouth Corporation ...	1	—	—	—	1
Manchester Corporation ...	1	—	—	—	1
Halifax Corporation ...	—	1	—	1	—
Cumberland County Council ...	—	1	—	—	1
Total ...	153	78	19	12	200

Section 47 of the National Assistance Act, 1948, provides for the removal to suitable premises of persons in need of care and attention. The following is a résumé of action taken during the year in regard to two cases under this Section.

1. J.T.R. A man aged 71 years who was living alone in insanitary conditions and causing a nuisance to others. He was suffering from diminution of vision and was of poor physical capacity. An order was obtained for his compulsory removal and he was admitted to hospital.
2. A.L. A woman aged 71 years who was living alone in insanitary conditions and causing a nuisance to others. She was infirm, suffered from diminution of vision and was

of very poor physical capacity. Authority was obtained to apply to a court of summary jurisdiction for an order for compulsory removal but before the order could be obtained the old lady agreed to be admitted to hospital.

There was a steadily increasing flow of requests for assistance necessitating home visits by Welfare Visitors, and the following table gives details of the numbers of requests received during the year, and the numbers of visits and revisits made by officers of the Welfare Services Section :—

Requests for advice and help :—

(a) Telephone	...	...	...	1,302
(b) Letter	...	...	...	135
(c) Personal application	...	...	...	335
No. of visits paid	...	...	...	2,063
No. of revisits	...	...	...	2,091
No. of cases admitted to :—				
(a) residential accommodation	...	...	...	390
(b) hospital	...	...	...	54
No. of cases referred to Housing Department for exchange of accommodation				8

Under Section 48 of the National Assistance Act, 1948, it is the duty of the City Council to provide temporary protection for property of persons admitted to hospitals, etc. In the exercise of this duty, and also in connection with the effects of persons dying with no known relatives, officers of the Welfare Services Section made 1,092 visits and revisits during the year.

The sections of the Act dealing with the registration and inspection of disabled persons and aged persons' homes, came into operation on 1st November, 1949. These homes, whether run for reward or not, must be registered by the City Council, and it is an offence for any person to carry on a registerable but unregistered home. A number of applications for the registration of homes were received and arrangements made for their inspection. 15 homes were registered during the year and other applications are under consideration.

The City Council has power, under Section 29 of the National Assistance Act, 1948, to make arrangements for promoting the welfare of persons who are blind, deaf or dumb or substantially or permanently handicapped by illness, injury or congenital deformity. The Minister of Health has directed local authorities to exercise their powers in the case of blind persons but has not given directions with regard to other classes of handicapped persons. The Council's Scheme under Section 29 of the Act provided that they should employ as their agents, for the purposes of that section, local voluntary organisations interested in the welfare of blind and partially-sighted persons.

During 1950, 196 applications for admission to the register of blind persons were examined by ophthalmic surgeons. Of these 158 were found to be blind and 38 not blind. In accordance with the wishes of the Minister of Health, an observation register is being compiled of partially-sighted persons to whom are being extended those parts of the welfare services for the blind as may be appropriate.

The following table shows the number of registered blind persons in Liverpool :—

Age.	Males.	Females.	Total.
0	1	1	2
1	—	—	—
2	1	—	1
3	2	1	3
4	2	2	4
5—10	8	3	11
11—15	8	13	21
16—20	12	12	24
21—30	45	28	73
31—39	47	49	96
40—49	100	77	177
50—59	134	118	252
60—64	88	103	191
65—69	68	128	196
70 and over...	224	383	607
TOTALS	740	918	1,658

There are facilities in Liverpool for the employment of suitable blind persons in workshops and over 100 employees are engaged in the

trades of brush-making, basket-making, mat-making, etc. The valuable co-operation of the Ministry of Labour and National Service is appreciated in all matters affecting the employment of blind persons.

At the present time 9 blind persons are employed as Home Workers in the following occupations:—

- 1 Braille Copyist,
- 1 Basket Making,
- 3 Music Teaching,
- 2 Machine Knitting,
- 1 Chair Caning,
- 1 Hand Knitting.

Consultations were continued during the year with local voluntary organisations concerned with the welfare of deaf and dumb persons, and eventually the City Council decided to make a grant to the local agency towards the cost of welfare work for the City's deaf and dumb people.

MENTAL HEALTH.

The Mental Health Section is responsible for the following types of service to the community:—

- (a) Taking the initial action when cases of mental disorder or mental deficiency are reported;
- (b) Undertaking the legal procedure in connection with admissions to mental and mental deficiency hospitals;
- (c) Supervising mental defectives in their own homes;
- (d) Training mental defectives in Occupation Centres;
- (e) Taking measures for prevention, care and after-care.

Of these, the first four are administered in accordance with provisions of the Lunacy, Mental Treatment and Mental Deficiency Acts as embodied in the National Health Service Act; the fifth was brought into being by this last Statute.

The initial action and legal procedure are duties which, though of the greatest importance and increasing in amount, are unlikely to change in nature unless new legislation is introduced, but in the supervision and training of defectives and the prevention, care and after-care service there has been useful development during the year.

Duties under Lunacy and Mental Treatment Acts.

Figures are given below of the cases referred to the Section and the action taken. It will be realised that these do not represent the total incidence of mental illness in Liverpool as many people are referred by practitioners to the various psychiatric clinics without the Section acting as intermediary.

Notification of such of these people as are subsequently admitted to hospital is, however, made to the Section so that the picture of hospital admissions should be complete.

Total number of cases notified 1,179

Action taken in these cases:

Admitted to Hospital (Section 20 Lunacy Act)	520
(of these 304 were subsequently certified).	
Referred to J.P. with view to hospital admission (Section 14 and 16 Lunacy Act)	97
Admitted to Hospital as voluntary patients	59
Admitted to Hospitals other than Mental Hospitals	24
Referred to Psychiatric Clinics	149
Referred to Regional Hospital Board	8
Referred to Welfare Section	112
Referred to Care or After-care Section	52
No further action indicated	158

Liverpool cases (certified and voluntary) admitted to Mental Hospitals in Liverpool Regional Hospital Board area:—

Hospital.	Cases certified under Section 16 Lunacy Act.	Voluntary Cases.
Sefton General	269	—
Rainhill	65	238
Winwick	50	100
Upton	13	4
Ormskirk	1	1
Whiston	3	1
	401	343

Age groups and sexes of cases notified:—

Age Groups.	Men.	Women.
20—30	118	135
31—40	81	93
41—50	57	96
51—60	50	91
61—70	57	94
71—80	45	79
Over 80	10	23

In 62 cases the ages were not known.

The following points may be noticed regarding the above figures:—

(a) The number of cases notified is 270 greater than last year. There has, in fact, been a steady increase in notifications since the inception of the service, which probably points to a changing attitude on the part of the public towards treatment, i.e.

a lessening of the "stigma" attached to it, rather than to any significant increase in mental illness. The facilities offered by clinics and by the Mental Health Section are also being used more as they become more widely known and it is felt that the officers of the Section have done much towards educating public opinion;

- (b) In less than half of reported cases was immediate admission under Section 20 found to be necessary. This means that in every case the alternatives—clinic attendance, voluntary hospital treatment, etc., were carefully considered and in many cases used;
- (c) In 159 cases no action beyond the initial visit was found to be necessary and in 112 others it was found that the action was in the province of the Welfare Section and not the Mental Health Service. Throughout the year, in fact, cases of alleged mental illness have been notified, which, on investigation, have turned out to involve, not mental illness, but domestic disputes, temperamental difficulties or circumstances which justify the intervention of the police;
- (c) It will be realised that much tact, as well as time, is necessary when such cases are visited. In addition, there is the problem of how far the natural process of mental degeneration in old people is to be regarded as ground for action under the Lunacy Act. In some cases action *is* necessary—the patient may be violent and endanger his own safety or that of others—but a very large number of old people are referred to the Mental Health Service who do not come into this category. The Regional Hospital Board is responsible for accommodating cases of senile dementia (in hospitals other than mental hospitals) and the Welfare Service cares for old people who, though senile, cannot be classed as senile dementia. The shortage of accommodation for both of these latter types of cases results in the reference of many of them to the Mental Health Service as a last resort. This is most undesirable and the Committee will be glad to know that every effort is made to meet the needs of such old people without recourse to "certification" under the Lunacy Act;

(d) The age-group figures exemplify two well-known facts—that the period of emergence from adolescence is one of stress in many cases and that women at and after the menopausal period are more prone to mental illness than men in the same age groups.

Duties under the Mental Deficiency Acts, 1913-38.

(a) *Ascertainment.*

183 new cases were notified as mentally defective during the year. Five of these were, after investigation, considered not to be defective within the meaning of the Mental Deficiency Acts; the remainder were "ascertained". The sources of notifications were as follows:—

Education Department under Section 57 (3) of the Education Act (<i>i.e.</i> , ineducable)	...	...	...	...	...	...	...	...	...	...	92
Under Section 57 (5) of the same Act (<i>i.e.</i> , needing supervision after leaving school)	...	...	...	...	...	...	...	...	...	...	73
Other sources	...	...	...	...	...	...	...	...	...	...	13

The following action was taken in the ascertained cases:—

Placed under Statutory Supervision (including 24 cases where institutional care recommended but vacancies unobtainable)	...	...	...	...	...	160
Admitted to Mental Deficiency Hospitals	...	...	...	...	...	11
Placed under Guardianship	...	...	...	...	...	1
Awaiting decision	...	...	...	...	...	6

(b) *Supervision and Guardianship (including licence cases).*

At 31st December, 1950, the numbers under supervision and guardianship were:—

Age.	Males	Females	Total
UNDER GUARDIANSHIP—			
Under 16	8	9	17
Over 16	22	53	75
UNDER STATUTORY SUPERVISION—			
Under 16	178	148	326
Over 16	495	422	917
UNDER VOLUNTARY SUPERVISION—			
Under 16	6	2	8
Over 16	5	2	7
	714	636	1,350

4,976 visits were paid to the homes of these cases during the year (including 644 to defectives on licence from Institutions). The object

of the supervision is the welfare of the defective, and two points may be stressed in this connection—though normal parents may have a mental defective child, a large amount of mental deficiency, especially feeble-mindedness, does occur in families of which the parents are themselves sub-normal. Visiting in these cases becomes a service for the whole of the family. Where it is obvious that the defective is not suitable to remain at home but must do so because of the lack of institutional accommodation, the Visitor's task is a most difficult and thankless one. The institutional position is referred to in more detail below.

Eight defectives were placed under guardianship during the year, in all cases for the purpose of providing a small allowance where the condition of a defective child has entailed abnormal expense to the parents. On 31st December there were 18 defectives under the age of 16 for whom the Committee were paying allowances totalling £39 per week. Defectives over the age of 16 are entitled to an allowance from the National Assistance Board.

(c) *Training.*

The Committee has the statutory duty to provide facilities for the training or occupation of mental defectives. The need to expand the provision of Occupation Centres for this purpose has been constantly under consideration for, on the transfer of functions in 1948, only one Centre, at 38, Princes Road, was available. Negotiations for the transfer of two former Public Assistance premises, one at Garston, the other at Dovecot, were successfully completed during the year and these buildings have been adapted and equipped and will be opened early in 1951. They will provide accommodation for the training of up to 100 defectives.

The Princes Road premises were purchased in February, and arrangements are in hand for their decoration inside and out. An average daily attendance of 90 has been maintained. The training has continued on existing lines but there has been one interesting development. By the courtesy of the Parks and Gardens Committee a plot of land on the Harthill Estate near Calderstones Park has been allocated for the training of older boys in gardening. About 15 boys have attended regularly for this work during the season and good crops of vegetables, etc., have been obtained. These have been sold to the Children's Department.

In June, 20 children proceeded on a week's holiday at Rhyl, and in September older boys had a day's outing at Southport.

The usual Christmas parties were held and were greatly appreciated: The children look forward to them months ahead and find a happy outlet for their energies in preparing for them. A tribute is also due to the staff of the Centre who spend so much time and care in making these functions a success.

The amount of £74 was realised by the sale of articles made at the Centre.

Meals continue to be provided through the School Meals Service and a special 'bus takes children to and from the Centre.

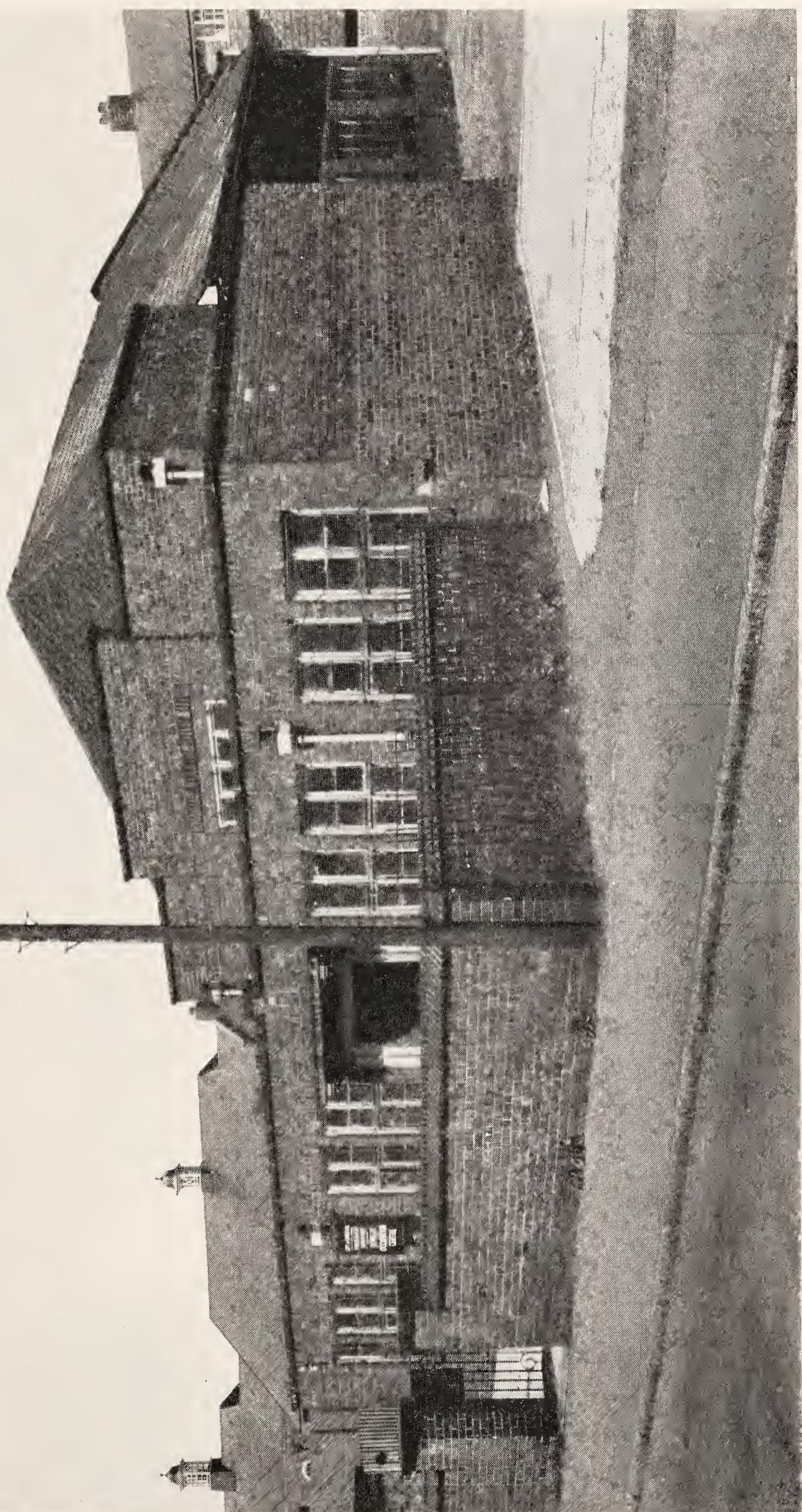
(d) Institutional Care.

The acute shortage of institutional accommodation for mental defectives has continued to cause the Committee the utmost concern.

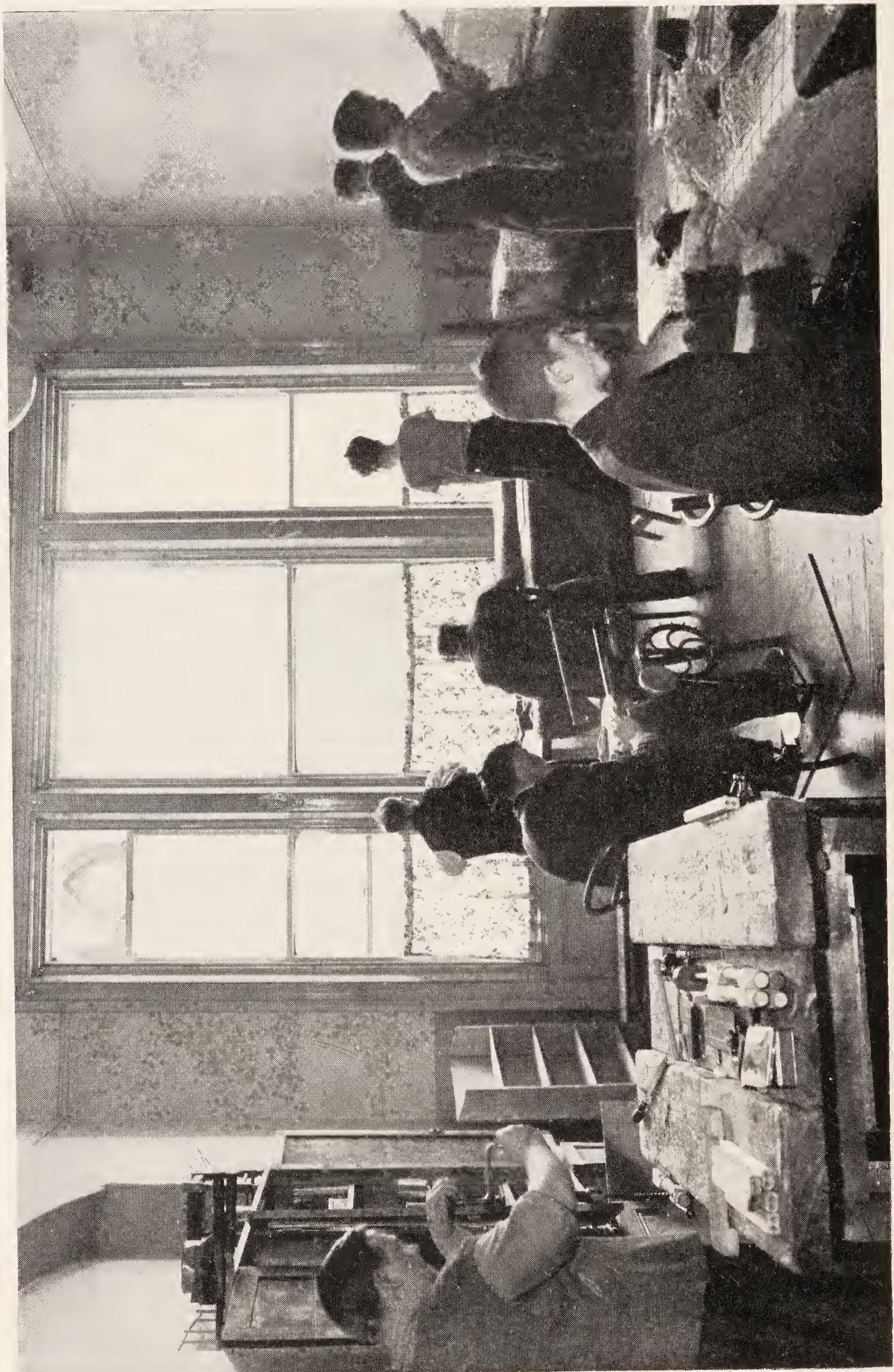
The situation has been aggravated rather than alleviated during the year and the institution by the Liverpool Regional Hospital Board of a central bed bureau for admissions has not yet resulted in any improvement. It is well to bear in mind that very large institutions which formerly served the needs of Liverpool are now within the area of the Manchester Regional Hospital Board.

The following figures show the position:—

(i)	Waiting list at 1st January, 1950	...	Highest urgency	...	...	...	29
		2nd	"	...	...	...	17
		3rd	"	...	...	...	10
					Total	...	56
							—
(ii)	Cases added to waiting list during 1950	...	...	...	...	...	76
(iii)	Admissions to Institutions—						
	Cases under headings (i) and (ii)...	...	...	...	...	...	43
	(including 15 to places of safety)						
(iv)	Other cases, admitted to Institutions after Court proceedings (Section 8 Mental Deficiency Act)	...	...	...	...	...	13
(v)	Applications for Institutional care withdrawn	...	...	...	...	...	4
(vi)	Waiting list at 31st December, 1950	...	Highest urgency	...	...	...	61
		2nd	"	...	...	...	14
		3rd	"	...	...	...	10
							—
							85
							—



OCCUPATION CENTRE, STONEFIELD ROAD, DOVECOT, LIVERPOOL, 14



OCCUPATION CENTRE, 38, PRINCES ROAD, LIVERPOOL, 8—INDUSTRIAL CLASS

In a report which the Medical Officer submitted to the Committee in December the Regional Hospital Board's plans were detailed and it would seem that every effort is being made to alleviate the position, but meanwhile the hardship, disruption of family life and deterioration of home conditions in some of these cases are extremely distressing.

(e) *Medical Examinations.*

The following examinations of defectives have been carried out by the Assistant Medical Officer of Health in charge of the Service:—

Newly notified cases ...	...	...	...	...	...	...	...	...	...	46
Guardianship—Statutory visits	...	...	...	...	...	...	...	...	...	106
other visits	...	...	...	...	...	...	...	...	...	7
Cases requiring institutional care	...	...	...	...	...	...	...	...	...	91
Review of cases under supervision	...	...	...	...	...	...	...	...	...	23
Holiday	...	...	...	...	...	...	...	...	...	21
Remand Home examinations requested by Children's Officer and Police	...	...	...	...	...	...	...	...	...	73
										367

The Remand Home work, which has increased considerably, consists of the examination of children before the Court on various charges who have been remanded for investigation of their mental condition. A report and recommendation as to action are submitted to the Court. The intelligence quotients of the persons examined were as follows:—

Above 100	...	...	...	7	61 to 70	...	...	...	...	17
91 to 100	...	...	...	10	51 to 60	...	...	...	...	7
81 to 90	...	...	...	10	40 to 50	...	...	...	...	5
71 to 80	...	...	...	14						

The fact that so many were found to be sub-normal is, of course, evidence of the value of the procedure. 14 of these cases were considered to be feeble-minded and the Court disposed of them as follows:—

Order for admission to Mental Deficiency Hospital	...	...	...	...	...	...	...	...	...	11
To Approved School	...	...	...	...	...	...	...	...	...	1
Placed on probation	...	...	...	...	...	...	...	...	...	2

Duties under Section 28, National Health Service Act—Prevention, Care and After-care.

The number of people referred as being in need of care and attention was 434. The majority were people who had been discharged from mental hospitals but others included members of the Forces discharged

as a result of mental abnormality, persons referred by medical practitioners and many people who, though unwilling to accept mental treatment welcomed visits and advice

2,000 visits were paid to the home of these people and, in addition, a large number of interviews took place at the office. A full report was written after each visit. Many reports and case-histories have been prepared for Psychiatrists at clinics and hospitals and in the case of ex-hospital patients copies of reports are forwarded to the patient's own doctor and to the mental hospital concerned. There is every reason to believe that this information about the homes and backgrounds of patients, as well as about their condition, assists greatly in early treatment.

A check on the adequacy or otherwise of the action recommended by the visiting officers is provided by the fact that all reports were read by the Assistant Medical Officer of Health.

The value of the work cannot be estimated in terms of figures, and often the time spent may seem disproportionately high to the results achieved. A few examples of the kind of work which is being done, however, will serve to show that the service is worth while.

- (A) An elderly business woman, directing an important company, suffered complete business failure and subsequent mental breakdown. When she came under the after-care service after hospital treatment she was making a good recovery, being a person of determination and sensibility, but the original cause of her illness—the threat of bankruptcy—was still present. She has to face her disaster quite alone, having no family and few friends. The visiting officer was instrumental in helping her to obtain assistance in putting her affairs in order and also legal aid. The patient meanwhile was under painful treatment for serious eye trouble which had developed. Visits were paid regularly to encourage her, and at the end of her successful treatment she was helped to obtain a post suitable to her capabilities and her need for mental stimulus.
- (B) A boy who had suffered a mental breakdown at the early age of 14. After treatment in a clinic he was admitted to a mental

hospital in the South of England. Much above average intelligence, he had previously won his way to a grammar school. The very poor home environment was probably the chief cause of his illness and it was felt that the condition would recur if he returned home on discharge from hospital. After much explanation to the parents they were induced to agree to his being accommodated at an Institution where a vacancy had been found by the Service. The boy resides in the Institution, attends another grammer school and visits his parents at intervals.

(C) A 22-year-old girl, well educated and intelligent, whose breakdown appeared to have been the result of an unstable childhood and broken home life. On leaving hospital she had been left to herself, for her family was no support to her in any way, and she drifted purposelessly, spending the summer camping and climbing with a male companion by whom she subsequently had a child. She came to the Mental Health Service in complete despair with nowhere to live, no money and no job. She was helped to find suitable accommodation with a sympathetic landlady and eventually, on her own efforts, obtained a job on a kitchen staff, where she earned enough to support herself and her baby, who was placed in a Day Nursery. Stress was laid on encouraging her to be independent and make a life for herself. There are many problems ahead and troubles are by no means over for this girl, but she was given hope and set on a definite path.

The provision of assistance in finding suitable employment can now be regarded as past the experimental stage. An officer is specially allocated to this work who is maintaining a close liaison with the Ministry of Labour and Youth Employment Service, and has himself been successful in obtaining 35 posts for mental patients or mental defectives during the year. 14 others have found posts for themselves after encouragement, advice and "nursing" by the employment officer.

This achievement may seem small but must be measured against the background of unemployment in Liverpool. (Recent Ministry of Labour figures show 16,000 unemployed in Liverpool and Bootle as against 3,600 in Manchester.) It will be realised that most of the people concerned

have a good deal of disability and require particularly sympathetic consideration by employers, and it is pleasant to record that this co-operation has been obtained in many cases.

The following are details of the posts found:—

Labourers ...	...	...	...	8	Semi-skilled Fitters	...	...	2
Gardeners ...	...	...	...	1	Ship's Scalers	...	...	1
Tyre Viewers	...	...	...	1	Firewood Maker	...	...	1
Kitchen Maids	...	...	...	1	Machine Operators	...	...	1
Box Makers ...	...	...	...	1	Remploy Factory	...	...	1
Grinder	...	...	...	1	Shop Assistants	...	...	2
Wire Worker	...	...	...	1	Farm Workers	...	...	3
Watchman ...	...	...	...	1	Brush Makers	...	...	1
Van Loaders	...	...	...	2	Nurseryman ...	...	...	1
Handyman ...	...	...	...	4				—
Biscuit Packers	...	...	...	1		Total	...	35

Administration.

The service is now under the direction of the General Purposes and Mental Health Sub-Committee consisting of 19 members of the Health Committee. In August the administrative offices were transferred from Gordon House to 8, Brougham Terrace.

Staffing.

In November Dr. F. Y. McKendrick was appointed as Assistant Medical Officer of Health in charge of the service in the place of Dr. R. G. Thomas who had taken another post.

At 31st December the number and qualifications of staff were as follows:—

1 Assistant Medical Officer of Health (M.B., Ch.B.); 1 Senior Administrative Assistant (D.P.A.); 1 Administrative Assistant; 1 Senior Authorised Officer (R.O. Certificate); 9 Duly Authorised Officers (1 S.R.M.N., 7 R.O. Certificates); 5 Female Visitors (1 M.A., 1, S.R.M.N., 1 S.E.A.N); 7 Clerks and Typists.

At the Princes Road Occupation Centre there were 1 Senior Supervisor (Dip. M.H. Assn), 4 Supervisors and Assistants, 1 Trainee Supervisor and 4 Domestics.

Two additional Lady Visitors were appointed, but it has not been found possible to fill the establishment vacancy for a Psychiatric Social Worker.

A special feature of the duties of Duly Authorised Officers is the amount of work done outside ordinary office hours, which is carried out

on a weekly roster system from the officers' own homes. During the year, 500 patients were notified and visited in this way. This is nearly half of the total cases notified.

The number of reports written during the year by the visiting staff totalled 8,153.

Courses.

Four of the Occupation Centre staff attended a Speech Training class and two a refresher course organised by the National Association for Mental Health.

Co-operation with Other Authorities.

Every effort is made to co-operate with the Regional Hospital Board and Hospital Management Committees, and the success of the after-care scheme is, of course, largely dependent on such co-operation.

An officer of the Section has continued to attend at the Psychiatric Clinic, Walton Hospital, and during the year he paid 467 visits to clinic patients in their homes. No requests have been received for the allocation of officers to other clinics.

Voluntary Associations.

It is understood that the West Lancashire Association for Mental Welfare remains in being, but efforts to contact its officers have been unavailing and it appears to have undertaken no activities during the year.

Friendly relations continue to exist with the various voluntary bodies in the City whose activities impinge upon the field of mental health. The Committee subscribes to membership of the National Association for Mental Health, and takes advantage of the facilities at its Holiday Home at Rhyl by sending parties of defectives, as mentioned earlier in this report.

Transport.

The City Ambulance Service has responded well to the increased demands made on it, but it is hoped that the coming year will see the allocation of a car for special use by the Mental Health Service.

The Health Committee has already agreed to this allocation but it has not yet been possible to take action.

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD 1ST JANUARY TO
31ST DECEMBER, 1950.

TABLE I.

Age-periods.	Notifications on Schedule A.														Total Primary Notifications.
	0-	1-	2-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-		
Respiratory—															
Males ...	9	14	35	37	19	66	57	169	120	139	98	48	5		816
Females ...	5	11	32	32	25	146	141	195	79	44	26	15	5		756
Non Respiratory—															
Males ...	3	3	10	14	7	7	7	11	8	2	1	—	—		73
Females ...	2	1	13	10	10	15	10	16	5	2	4	3	—		91

Out of a total of 1,572 primary notifications of respiratory tuberculosis 1,228 were received from private and 344 from hospital practitioners, whilst in the case of non-respiratory tuberculosis these figures are 54 and 110 respectively, forming a total of 164.

The Notification and Dispensary Registers.

In Table II is shown the number of cases on the notification and dispensary registers at the end of the year, the difference (869) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment under this authority before reaching the "cured" stage. A few notified cases are also included in which the patients have refused to make use of the treatment facilities available.

TABLE II.

	Respiratory Tuberculosis.		Non-Respiratory Tuberculosis.		Totals.
	Males.	Females.	Males.	Females.	
Number of cases on the Notification Register ...	3,516	3,176	515	611	7,818
Number of established cases on the Dispensary Register	3,129	2,851	455	514	6,949
Difference	387	325	60	97	869

In Table III is given an analysis of the 869 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III.

	Respiratory Tuberculosis.						Non-Respiratory Tuberculosis.						Totals.
	Males.		Females.			Males.		Females.					
	State of the Disease.				State of the Disease.								
	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	869
Totals	2	72	313	0	71	254	1	14	45	1	26	70	

Tuberculosis Clinics and Dispensary System.

A statistical summary of the work of the Tuberculosis Clinics, so far as all cases on the dispensary registers are concerned, is given in Table IV, and in addition there are included a few statistics of a general nature.

TABLE IV.

DIAGNOSIS.	RESPIRATORY				NON-RESPIRATORY				TOTAL				GRAN TOTAL	
	Adults.		Children	Adults.		Children	Adults.		Children					
	M.	F.		M.	F.		M.	F.		M.	F.			
A.—NEW CASES examined during the year (excluding contacts):														
(a) Definitely tuberculous ...	616	512	117	33	39	60	649	551	177	1,377				
(b) Non-tuberculous	—	—	—	—	—	—	303	195	189	687				
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous ...	40	49	78	1	1	2	41	50	80	171				
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	17	27	88	132			
(c) Non-tuberculous	—	—	—	—	—	—	191	435	1,270	1,896				
C.—CASES written off the Dispensary Register as :—														
(a) Recovered	111	104	16	15	20	15	126	124	31	281				
D.—NUMBER OF CASES on Dispensary Register on Dec. 31st 1950 :—														
(a) Definitely tuberculous ...	2,845	2,566	569	254	312	403	3,099	2,878	972	6,949				
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	17	27	88	132			
1. Number of cases on Dispensary Register on January 1st, 1950			6,250											
2. Number of cases transferred from other areas and cases returned after discharge under Heading 3 in previous years ...													4	
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of"			478											
4. Cases written off during the year as Dead (all causes)													4	
5. Number of attendances at the Clinics (including Contacts)			14,452											
6. Number of Persons under Domiciliary Treatment on the 31st December, 1949													2,4	
7. Number of consultations with medical practitioners :—														
(a) Personal			94											
(b) Other			3,498*										1,7	
8. Number of visits by Tuberculosis Officers to homes (including personal consultations)														
9. Number of visits by Tuberculosis Visitors to homes of patients			16,203											
10. Number of :—														
(a) Specimens of sputum etc., examined													3,2	
(b) X-ray examinations made in connection with Dispensary work ...													6,3	

* In addition to 3,498 consultations, 4,094 reports concerning patients were sent to medical practitioners.

TABLE V.

PATIENTS UNDER DISPENSARY TREATMENT AT THE END OF THE YEAR.

	Respiratory	Non-respiratory.	Totals.
Males	3	2	5
Females	1	—	1
Male Children*	3	4	7
Female Children*	4	1	5
TOTALS	11	7	18

* Under 15 years of age.

TABLE VI.

PATIENTS NOT NEEDING TREATMENT WHO WERE UNDER DISPENSARY SUPERVISION AT THE END OF THE YEAR.

	Respiratory	Non-respiratory	Totals
Males	1278	148	1426
Females	1219	188	1407
Male Children*	146	84	230
Female Children*	123	86	209
TOTALS	2766	506	3272

* Under 15 years of age.

Home Nursing.

The domiciliary nursing of both respiratory and non-respiratory cases continues to be carried out by the Liverpool Queen Victoria District Nursing Association. During the year, 239 respiratory and 24 non-respiratory cases were nursed in their homes, and to these cases 9,253 visits were paid.

General Remarks.

The City death rates for the year 1950 for respiratory and non-respiratory tuberculosis are 0·60 and 0·08 per 1,000 respectively, making a total of 0·68 per 1,000 for all forms of the disease. An analysis of unnotified cases of tuberculosis is given in Table VIII.

In accordance with the requirements of the National Service (Armed Forces) Act, 1939, the Tuberculosis Officers have submitted 16 reports to the Ministry of Labour, under the Public Health (Tuberculosis) Regulations, 1940 (Men).

MILK.—It was not found necessary during the year to take any action under the Public Health (Prevention of Tuberculosis) Regulations, 1925, or Public Health Act, 1936, Section 172.

CONTACTS. The Tuberculosis Officers have examined 2,199 persons who were known to have been in contact with infectious cases of respiratory tuberculosis and found evidence of disease in 7.77 per cent.

Tuberculosis Welfare.

During the year 1950, 961 cases have been the subject of reports to the National Assistance Board with a view to determining their eligibility for the special rates applicable to cases of tuberculosis.

Liaison is maintained with the Ministry of Labour with a view to assisting in the rehabilitation of suitable cases.

REHABILITATION.

Summary of cases dealt with during the year 1950:—

TABLE VII.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

		Respiratory	Non-respiratory	Totals.
Males		1036	84	1120
Females		970	98	1068
Male Children*		92	51	143
Female Children*		99	58	157
TOTALS		2197	291	2488

* Under 15 years of age.

Co-operation.

During the year, 1,141 reports were rendered by the Tuberculosis Officers in respect of school children. Many cases have also been examined at the request of organisations such as the Liverpool Personal Service Society; Child Welfare Association; Maternity and Child Welfare Department, etc.

Notification and Deaths.

During the year, 64 persons within the city died from tuberculosis without notification having been effected prior to death. The result of enquiry into the reasons for such failure to notify are summarised in Table VIII.

TABLE VIII.

DISEASE.	No. of Deaths.	Reasons for non-notification.					
		No. of cases not notified before death.	Diagnosis made at a post-mortem examination. (Includes Coroner's Cases.)	Diagnosis delayed owing to clinical difficulties.	Doctor thought case had been notified by another Practitioner.	Notification forgotten.	Patient died before notification could be effected.
Respiratory	477	35 7.33%	14 2.93%	7 1.47%	6 1.25%	2 0.42%	6 1.25%
Non-Respiratory ...	63	29 46.03%	11 17.46%	6 9.52%	3 4.76%	3 4.76%	2 3.17%

Deaths from Tuberculosis.

The number of deaths from respiratory and non-respiratory tuberculosis in Liverpool from 1939 to 1950, together with the number of new cases notified and the death rates which prevailed in England and Wales are given in Tables IX and X where case rates for Liverpool are shown.

TABLE IX.
DEATHS FROM RESPIRATORY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1939	1,213	1·47	647	0·81	0·54
1940	1,311	1·73	761	1·01	0·59
1941	1,302	1·90	699	1·02	0·60
1942	1,370	2·04	653	0·97	0·54
1943	1,479	2·23	670	1·01	0·56
1944	1,441	2·16	597	0·90	0·52
1945	1,455	2·13	605	0·88	0·52
1946	1,478	2·01	579	0·79	0·46
1947	1,479	1·96	599	0·79	0·47
1948	1,618	2·04	630	0·79	0·44
1949	1,619	2·02	542	0·68	0·40
1950	1,572	1·96	481	0·60	0·32

TABLE X.

DEATHS FROM NON-RESPIRATORY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1939	317	0·38	99	0·12	0·09
1940	274	0·36	122	0·16	0·11
1941	305	0·44	147	0·21	0·13
1942	348	0·52	124	0·18	0·11
1943	335	0·51	103	0·15	0·11
1944	250	0·37	82	0·12	0·10
1945	248	0·36	96	0·14	0·10
1946	237	0·32	79	0·10	0·08
1947	234	0·31	85	0·11	0·09
1948	228	0·29	85	0·11	0·07
1949	211	0·26	68	0·08	0·05
1950	164	0·20	64	0·08	0·04

TABLE XI.

AGE PERIODS OF DEATHS FROM TUBERCULOSIS DURING 1950.

Age Periods.	RESPIRATORY		NON-RESPIRATORY	
	Males.	Females.	Males.	Females.
0—	2	—	2	2
1—	1	—	11	9
5—	—	—	2	3
10—	1	1	—	3
15—	2	15	—	5
20—	16	30	3	1
25—	44	71	1	2
35—	49	29	2	5
45—	67	15	4	2
55—	68	17	—	2
65—	39	14	1	4
TOTALS	289	192	26	38

VENEREAL DISEASES WELFARE.

The treatment of venereal disease is the responsibility of the Liverpool Regional Hospital Board and the Board of Governors of the United Liverpool Hospitals, but the welfare work associated with these diseases continues in the hands of the local health authority.

Two male and two female clinics which are open for most of the day continue to function as do the hospital wards for in-patients. Laurel House, a diocesan institution for the moral rehabilitation of young girls, received financial support from the local health authority.

From the subjoined table it will be seen that since 1946 there has been a welcome decline in the incidence of early infections amounting overall to more than 66 per cent., and that the number of infections in women has fallen most rapidly.

ACUTE GONORRHOEA.

	1946	1947	1948	1949	1950
Males	3,112	2,575	1,933	1,441	1,204
Females	422	272	174	159	140

EARLY SYPHILIS.

	1946	1947	1948	1949	1950
Males	655	481	370	219	136
Females	331	248	155	85	50

The staff of the V.D. Welfare Section consists of a senior male welfare visitor, a male welfare visitor and a female welfare visitor. In addition, the services of the welfare visitor attached to the Royal Infirmary V.D. Clinic are available to deal with female defaulters from that clinic.

The work entails the interviewing of patients, the tracing of contacts and persuading them to attend for examination, writing and visiting defaulters from treatment and assisting patients to attend in the light of the knowledge of the circumstances of the individual patient. Close co-operation with the medical officers of the various treatment centres is maintained. In addition, patients referred to clinics by hospitals for investigation or treatment having failed to report, are followed-up, in most cases, successfully.

CONTACT TRACING.

In accordance with the recommendation contained in Ministry of Health Circular 5/48, the practice of following-up contact cases notified from all areas has produced the following results:—

TABLE A.

	Male	Female	Total
No. of notifications received	—	54	54
No. of cases traced and interviewed	—	17	17
No. of cases not yet interviewed	—	1	1
No. of cases who reported for investigation	—	16	16
No. of cases in which information was passed on to other Authorities	—	3	3
No. of cases already in the Register of a Liverpool Clinic ...	—	5	5
No. of cases untraced, due mainly to insufficient information...	—	34	34

The issue of "contact slips" to patients for the use of their potentially infected partners has brought under observation 94 males and 165 females. From no other single source has a greater number of female patients come for examination.

FOLLOW-UP OF DEFAULTERS.

The following Tables B and C indicate respectively the response of defaulting patients to letters or to home visiting:—

TABLE B.

	Male	Female	Con-genital	Total
No. of cases written to	974	1,030	128	2,132
No. of letters despatched	1,052	1,669	185	2,906
No. of cases reporting after receipt of letter... ...	493	677	105	1,275
No. of letters returned—Dead Letter Office ...	59	51	3	113
No. of cases traced and transferred	11	10	—	21

TABLE C.

	Male	Female	Con-genital	Total
No. of cases visited	589	612	53	1,254
No. of visits made	1,447	1,962	201	3,610
No. of cases attending following visits	219	380	39	638
No. of cases promising to attend but failing to do so	43	38	4	85
No. of cases removed, or not known at address given	157	74	4	235
No. of cases not contacted, no access, away from home, etc.	102	60	—	162
No. of cases who refused to re-attend	36	42	—	78
No. of cases removed to other districts, and trans. for follow-up	—	13	1	14
No. of cases deceased	5	3	2	10

INSPECTION OF FOOD.

TABLE I.

NUMBER OF VISITS PAID TO PREMISES BY FOOD INSPECTORS.

Slaughter-houses.	Butchers' shops.	Fruit shops.	Fish and Fruit shops.	Food Hawkers' premises.	Jam factories.	Wholesale and Retail Provision premises.	Ice Cream premises.	Food factories.	Knackers' yards.	Total visits.
1	7,726	13,722	13,900	130	4	18	2,204	700	8	38,413

Private Slaughter-houses.

There are 4 private slaughter-houses in the city at which, during the year, no animals were slaughtered.

The City Abattoir.

356,992 animals were slaughtered for human food, details of which are given in the following table:—

TABLE II.

NUMBER OF ANIMALS SLAUGHTERED IN LIVERPOOL FOR HUMAN FOOD.

	Bulls.	Bullocks.	Cows.	Heifers.	Calves.	Sheep and Lambs.	Swine.	Horses.	Goats.
City Abattoir	758	24,366	29,479	14,420	71,202	207,152	9,260	326	29
TOTALS ...	758	24,366	29,479	14,420	71,202	207,152	9,260	326	29

TABLE III.

CARCASES OF ANIMALS (HOME-KILLED) BROUGHT INTO THE CITY MEAT MARKET FROM OTHER DISTRICTS.

Beef.	Veal.	Mutton.	Lamb.	Pork.
8,548	244	6,942	62,637	12,072

In addition to the above, 8,769 boxes or packages of home-killed offal were dealt with in the meat market.

TABLE IV.

CARCASES OF IMPORTED (FROZEN AND CHILLED) MEAT DEALT WITH AT THE CITY MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.	Rabbits.
26,678	123	110,451	334,471	1,468	6,794

In addition to the above, 126,064 boxes and packages of imported meat and offal were dealt with in the meat market.

The following amounts of imported meat and offal were destroyed for unsoundness, such as bone taint, mould, brine damage and decomposition:—Beef 6,300 lb., Mutton 108 lb., Veal 393 lb., Pork 234 lb., Beef Offal 1,494 lb., Mutton Offal 47 lb., Pork Offal 586 lb.

Diseased Conditions.

The carcases of 74,878 animals showed abnormal conditions, and a detailed examination was made in each case, 3,262 carcases being rejected as unfit for human food. Of these, 2,773 were destroyed at the abattoir and 489 were destroyed at knacker's yards. A description of the diseased conditions found during 1950 which led to the total or partial destruction of carcases is given in Table V.

TABLE V.

Disease.	No.	Disease.	No.
Abscess (total)	11	Melanosis (total)	6
,, (partial)	341	,, (partial)	5
Arthritis, Septic (total)	21	Nephritis Septic (total)	16
,, Simple (partial)	117	Pyæmia	14
Asphyxia	449	Peritonitis Septic	27
Cysticercus Bovis (total)	2	Peritonitis (partial)	14
Contamination (partial)	64	Pneumonia	37
Decomposition (total)	13	Pleurisy	14
,, (partial)	2	Pleurisy (partial)	47
Distomatosis	62	Presternal Calcification (partial) ...	6
Dropsy (total)	293	Septicæmia	28
,, (partial)	15	Septic Mastitis	6
Enteritis	398	,, Metritis	4
Immaturity	73	,, Pericarditis	5
Injury (total)	17	Swine Erysipelas	1
,, (partial)	321	,, Fever	12
Jaundice	282	Tuberculosis (total)	913
Johnes Disease	8	,, (partial)	1,412
,, (partial)	4	Uræmia	6
Joint Ill	47	Urticaria (partial)	2
Malignant Neoplasms	7		

In addition to the carcases totally destroyed because diseased conditions made them unfit for human food, a number of organs with localised disease were condemned.

TABLE VI.
QUANTITIES OF FOOD MATERIALS CONDEMNED AS BEING UNFIT FOR HUMAN FOOD.

Beef, Veal, Mutton, Pork.	Fish.		Crabs, Lobsters,		Poultry.		Game.		Fruit.		Vegetables.		Canned Food- stuffs.	Dried Fruit.
	Offal.	Wet.	Dry.	Oysters, Crayfish, Shrimps, Prawns, Scallops.	Cockles, Mussels, and Winkles.	Fowls, Ducks, Geese, Turkeys, etc.	Partridges, Grouse, etc.	Rabbits, and Hares.	Apples, Pears, Bananas, Oranges, Lemons, etc.	Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.	Nuts, Coconuts, Almonds, etc.	Sundries.		
Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
803,409	1,267,712	368,830	73,293	9,595	313	10,175	2	5,232	225,575	624,595	30,107	34,812	158,331	3,003

Cysticercus Bovis.

A disease of cattle absent from this country for many years but recently a number of cases have been found by the Meat Inspectors at the Abattoir.

On post mortem examination the following carcasses were found affected:—

- 195 bullock carcasses,
- 87 cow carcasses,
- 75 heifer carcasses,
- 10 bull carcasses.

Two cow carcasses and organs were condemned as unfit for human food on account of a widespread infection of cysticerci.

In five cases cysts were found in the thigh muscles, seven in the heart muscle, and two in the diaphragmatic muscle.

In 360 cases the masseter muscles, i.e. cheek muscles, contained cysts.

The source of infection has not been fixed but the affected bullocks were mostly of Eireann origin. During the year, much work has been carried out in making an attempt to discover the origin of the disease but it has been found that the animals came from widely separated districts, making decisive conclusions difficult.

All animals slaughtered are examined for *cysticercus bovis*, muscles such as the Internal and External Masseters, the heart, diaphragm are examined in routine inspection and in many cases it has been found necessary to make sections of the shoulder, neck and thigh muscles.

When imperfectly cooked meat containing cysts is eaten by human beings the cysts are liable to develop into tape worms which can cause ill-health.

TABLE VII.
CARCASSES INSPECTED AND CONDEMNED.

	Cattle excluding Cows.	Cows.	Calves.	Sheep and Lambs.	Pigs.	Goats.	Horses.
Number killed (if known)	39,544	29,479	71,202	207,152	9,260	29	326
Number inspected	39,544	29,479	71,202	207,152	9,260	29	326
All Diseases except Tuberculosis.							
Whole carcasses condemned	22	218	1,193	372	54	—	1
Carcases of which some part was condemned	217	333	24	198	167	—	—
Carcases of which some organ was condemned	14,791	15,592	139	31,470	997	—	1
Percentage of the number inspected affected with disease other than tuberculosis	38·01%	54·76%	1·90%	15·47%	13·15%	—	0·61%
Tuberculosis only.							
Whole carcasses condemned	69	785	44	—	15	—	—
Carcases of which some part was condemned	266	1,125	4	—	17	—	—
Carcases of which some organ was condemned	1,416	4,766	5	—	577	—	—
Percentage of the number inspected affected with tuberculosis ...	4·42%	22·65%	0·07%	—	6·58%	—	—

The Tuberculosis Order, 1938, and Tuberculosis (Amendment) Order, 1946.

These Orders aim at the elimination of cows suffering from tuberculosis which may be a source of infection to human beings and to other animals. During 1950, 37 cows were slaughtered under these Orders at the City Abattoir.

Slaughter of Animals Act, 1933.

Applications for licences as slaughtermen were received as follows:— 3 new licences, 5 renewals of existing licences, and 169 temporary licences

for the slaughter of animals for the food of Mohammedans. In each case the licence was granted.

Two slaughtermen were found for contravening the Act; one was fined £5 and the second 10s.

Cases of Food Poisoning Investigated.

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL
1	45	15	18	79

OUTBREAKS DUE TO IDENTIFIED AGENTS.	Total Outbreaks	Total Cases
Outbreaks due to :—		
(a) Chemical Poisons	—	—
(b) Salmonella Organisms	—	—
(c) Staphylococci (including toxin) ...	1	40
(d) Cl. botulinum	—	—
(e) Other bacteria	—	—
TOTALS	1	40

OUTBREAKS OF UNDISCOVERED CAUSE	...	—	—

SINGLE CASES.

Agents Identified	Unknown Cause	Total
23	16	39

Food Poisoning.

There was, during the year, an outbreak of food poisoning among children resident in a local hospital.

Forty children were affected, the symptoms being sickness and vomiting with subsequent diarrhoea. All the children recovered.

Investigations on suspected foodstuffs showed heavy contamination with staphylococcus aureus in a raw milk obtained from one supplier and this supplier and his two assistants at the farm were found to be carriers of staphylococci. Direct samples of milk taken at the farm were found to be infected and so were the milking machine teats and rubbers and also the milk cooler.

The milk from the farm was thereabter pasteurised and improvements made in the handling methods.

Two other farms supplied raw milk to the hospital and these milks, though not known to have caused any illness, were found to be contaminated with *Staphylococcus pyogenes* in one case and with bot this organism and *Haemolytic Streptococci* in the other. Pasteurised milk only was used by the hospital following these findings.

The hospital kitchen was well run and hygienic but nasal, throat and hand swabs taken from all staff showed that nine persons out of a staff of twenty-nine harboured *Staphylococcus pyogene*. These organisms did not, however, belong to the same phage type as the organisms isolated from the milk considered to have caused the outbreak.

This has once again demonstrated the inadvisability of using raw milk without effective hygienic dairy standards.

Section 13 of Food and Drugs Act, 1938.

170 notices were served.

	DEFECTS		
	Completed	Not Completed	
Inadequate water supply	5	—	
Dirty walls	161	2	
Dirty ceilings	141	3	
Dirty or defective floors	66	1	
No washing facilities	2	1	
Refuse in cellars	11	—	
Defective sink	12	1	
No sink	9	—	
Refrigerator dirty	15	—	
Dirty cellars	17	—	
No hot water	32	—	
No soap	2	—	
No towels	9	—	
No waste pipe to sink	7	—	
Chimney opening	2	—	
Broken windows	6	—	
Food, bad handling	8	—	
Shop utensils and fitments dirty	18	2	
	523	10	

Ice Cream.

During the year a marked improvement has been observed in the manufacture and sale of ice cream and the reports of the City Bacteriologist, based on the results of samples submitted by the Sampling Officers, show that the efforts made by the Department to improve the hygienic handling of this commodity is rapidly gaining ground.

The Ice Cream (Heat Treatment) Regulations, 1947, have been a great help to the Department by ensuring that Ice Cream is raised to a temperature which will make it safe as an article of food before being sold to the public. Ice Cream must be kept at a temperature of 28° F. or less, and if the temperature rises above 28° F. the entire process of heating must be repeated.

In addition to the testing for cleanliness, a further step has recently been taken to improve the quality of Ice Cream by laying down a Standard for fat, sugar and milk solids other than fat; guiding figures given should improve the food value of Ice Cream as, very often, the fat content was very low, having been found as low as 0·7 per cent. and rising to over 16 per cent. This standard should improve as the supply of milk powder and fat increases.

The premises, plant and utensils of all makers and vendors of Ice Cream are regularly inspected and during the year 2,204 visits were made to ensure cleanliness of methods of manufacture.

At special meetings of the Ice Cream Alliance, lectures and talks have been given by the Deputy Medical Officer of Health and the Chief Food Inspector.

Special steps are taken when a manufacturer of Ice Cream has had a sample graded 3 or 4. It is the practice of this department to go through the whole process of the manufacture, including the handling by employees, to find cause why the Ice Cream has had such a bad grading.

Clean Food Campaign.

CLASSES OR LECTURES FOR FOOD TRADERS OR THEIR EMPLOYEES.

Each year a number of meat trade and food factory principals and employees enrol in the Meat and Food Class to further their knowledge of the food industry. It is the practice to keep, as far as is possible, these men together and to impress upon them the necessity of the clean handling of food and the effects of dirty refrigerators, dirty personal habits, dirty premises and equipment. Special stress is made of the essential cleanliness of plant, more particularly sausage machines, and of the need of prevention of contamination of foodstuffs used in prepared foods, such as sausage, brawn, pressed meat and meat mixture concoctions.

Every opportunity is taken in markets, food shops, food factories or food distribution premises of impressing employers and employees of the importance of clean handling of food. This fact is more particularly emphasised when a complaint has been received concerning the particular person, place or commodity.

Other Relevant Activities.

Lectures and demonstrations given to Domestic Science students and Student-Nurses embrace the careful handling and storage of all foods, food spoilage by acari, flies, rats, mice, etc., and the danger of foods becoming contaminated by staphylococci thereby leading to outbreaks of food poisoning. Every effort is made during the lectures to show food specimens in their normal and abnormal condition, including diseased meat, such as tuberculosis, septicaemia, etc.

THE CLEANLINESS OF MILK.

During the year, the standard of cleanliness of milk has been very satisfactory. Regular routine samples were taken from the herds of producers within the City, and also from the milk brought into Liverpool daily by road and rail from the County areas of Lancashire, Cheshire, Denbighshire and Shropshire.

By the operation of the Food and Drugs (Milk and Dairies) Act, 1944, which came into force on October 1st, 1949, together with the Milk (Special Designations) Act, 1949, new Regulations in regard to milk and dairies; registration of milk dealers and producers; designated raw milk; as well as sterilised and pasteurised milk, have also become operative.

The major change is that a Local Authority is no longer responsible for the production control of raw milk or the conditions of cowsheds where this milk is produced. This work has been carried on by the Ministry of Agriculture and Fisheries from October 1st, 1949.

The supervision of dairies (apart from farms or producers' premises) still remains the duty of local authorities, which also retain control of pasteurisation plants and the licensing in connection therewith.

The total number of milk samples submitted to the City Bacteriologist for examination was 2,564, comprised as follows:—148 Tuberculin-tested milks; 597 Accredited milks; 226 Ungraded milks; and 1,593 heat-treated milks.

The Tuberculin-tested, Accredited, and ungraded milk were examined by the methylene blue reduction test, and subjected to guinea pig inoculation for the detection of tubercle bacilli. Heat-treated milk was tested by the phosphatase, methylene blue, or turbidity tests. The detailed results of bacteriological examinations of milk are given in Tables VIII to XI.

TABLE VIII.

EXAMINATION OF SAMPLES OF TUBERCULIN TESTED MILK.

Supplied by	Number of Samples	Where taken	METHYLENE BLUE REDUCTION TEST.	
			Satisfactory.	Unsatisfactory.
A	13	Hospitals (Milk Produced outside City).	11	2
B	4	"	4	0
C	13	"	11	2
D	12	(Produced in City)	11	1
E	13	"	13	0
F	12	"	11	1
G	11	"	5	6
H	12	"	10	2
I	11	"	11	0
Various	47	Wholesale Depots (Country Milk)	39	8
TOTALS	148		126	22
			85·1%	14·9%

TABLE IX

THE EXAMINATION OF ACCREDITED MILK PRODUCED IN LIVERPOOL.

Total Number of Samples.	METHYLENE BLUE TEST.	
	Satisfactory.	Unsatisfactory.
597	537	60
	90·0%	10%

It is interesting to note that the Accredited milk produced in city cow-sheds, which formerly were subject to supervision by the Health Department, was cleaner than Tuberculin-tested milk produced by herds in areas outside the City.

TABLE X

EXAMINATION OF SAMPLES OF UNGRADED AND UNTREATED MILK
PRODUCED IN LIVERPOOL.

Month.	Number of Samples	METHYLENE BLUE REDUCTION TEST.	
		Satisfactory.	Unsatisfactory.
January ...	20	16	4
February	19	18	1
March ...	21	17	4
April ...	20	17	3
May ...	20	18	2
June ...	19	12	7
July ...	19	13	6
August ...	17	9	8
September	18	15	3
October ...	17	16	1
November ...	18	16	2
December ...	18	17	1
TOTAL ...	226	184	42
		81·4%	18·6%

TABLE XI.

EXAMINATION OF HEAT TREATED MILK FROM PLANTS IN THE CITY.

Class of Milk.	Number Tested.	Appropriate Test.	Number of Samples.	
			Passed.	Failed.
Pasteurised...	989	Phosphatase ... Methylene Blue	979	10
			987	2
Heat Treated	11	Phosphatase ... Methylene Blue	10	1
			11	—
Sterilised	155	Turbidity ...	155	—
Tuberculin Tested (Pasteurised) ...	438	Phosphatase ... Methylene Blue	437	1
			438	—
TOTAL	1,593	Phosphatase ... Methylene Blue Turbidity ...	1,426 1,436 155	12 2 —

Since February, 1948, by the operation of the Public Health Laboratory Service under the Ministry of Health, the examination of heat-treated milk for the purpose of testing the efficiency of the heat treatment by means of the phosphatase test, and for keeping quality by the methylene blue reduction test, has been carried out by the City Bacteriologist.

On October 1st, 1949, the Milk (Special Designation) (Pasteurised and Sterilised Milk) Regulations became operative. These regulations re-enact with amendments the previous legislation and provide for a new designation of heat-treated milk—sterilised milk—which must now comply with a specified test.

Sterilised milk must be filtered, homogenised and heated to and maintained at such a temperature, not less than 212° F., for such a period as to ensure that it will comply with the turbidity test specified in the regulations.

155 samples of sterilised milk were tested and all samples were reported as satisfactory.

The total number of 1,593 samples of heat-treated milk submitted included 18 samples which were taken at the dock-side on arrival from Northern Ireland.

The efficiency of heat-treatment plants in the City (which are amongst the most up-to-date in the country) has been maintained at a high level and reflects credit on the firms concerned, who have co-operated with the Health Department by accepting suggestions and criticisms, in achieving most satisfactory results.

TUBERCULOUS MILK.

The Examination for Tuberculosis, of Milk produced within the City.

TABLE XII.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	628	9	1·1%
Ungraded raw milk	210	5	2·3%

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

TABLE XIII.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	55	—	—

The comparatively small amount of ungraded raw milk coming into the City from outside areas is pasteurised or sterilised before sale, and for this reason samples have not been submitted for guinea pig inoculation.

Milk for School Children.

Pasteurised milk only is supplied to school children under the Milk Marketing Board's Scheme. During the year some 108,064 children were each supplied with a third of a pint daily. This number is approximately 93 per cent. of the children attending school. During the year, 106 samples were examined bacteriologically and chemically, and the

results as a whole were highly satisfactory. None of the samples was found to be tuberculous.

Routine milk samples taken at Day Nurseries, the Central Kitchen, and School Canteen Kitchens have proved satisfactory.

Milk Supply to Hospitals and Aged Persons' Hostels.

The milk supplied to the Hospitals and Aged Persons' Hostels in the City by various contractors is regularly sampled at the time of arrival. 204 samples were submitted for chemical analysis and bacteriological examination, and the results of these tests during the year have been satisfactory. On one occasion, however, the samples of pasteurised milk taken at two Liverpool hospitals failed to satisfy the test for adequate heat treatment. The supplier concerned, whose plant and premises are outside the City, found on investigation that there had been a mechanical failure of the pasteuriser which gave rise to this occurrence. The fault was remedied and all subsequent samples proved satisfactory.

THE ADULTERATION OF FOOD AND DRUGS.

The importance of a pure food supply cannot be over-estimated especially in view of the limited amount of rationed commodities available, and, therefore, low quality or adulterated foods cannot be tolerated.

The Medical Officer of Health is, of course, responsible for ensuring that the foodstuffs offered for sale for human consumption in his area are pure and wholesome. This entails the constant vigilance of the Food and Drugs Inspectors who purchase samples of foodstuffs of every description, and after analysis by the Public Analyst (whose duty is to test for adulteration), appropriate action is taken. In some cases, legal proceedings are instituted; in others, advice is given to the vendor—particularly in regard to milk which proves to be of abnormal composition although genuine—and in other instances the packer or manufacturer is advised of the irregularity or technical offence. The laying of informations, service of summonses and the preparation of evidence is carried out by the Food and Drug Staff.

It is satisfactory to note that during the year 1950, out of a total number of 6,617 samples taken or purchased, only 3·8 per cent. were found to be not genuine or otherwise giving rise to irregularity. This comparatively low figure is a tribute to food suppliers and shopkeepers as well as to constant inspection and sampling.

Of the total number of 6,617 samples detailed in Table XV, 1,584 were formal and 5,033 informal. An "informal" sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to irregularities is obtained in this way. Prosecution for adulteration cannot be undertaken, however, until a "formal" sample has been taken subsequently, in accordance with the procedure described in the Food and Drugs Act, 1938. 106 formal samples and 148 informal samples were reported as not being genuine or otherwise giving rise to irregularity. Legal proceedings were instituted in 32 cases where informal samples were found not to be genuine and, in the remaining instances, appropriate action was taken. The results are summarised in Table XVI.

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TABLE XV.

SUMMARY OF SAMPLES TAKEN OR PURCHASED DURING THE YEAR 1950 UNDER
THE FOOD AND DRUGS ACT, 1938.

Nature of Sample.	Number of Samples.		Samples found not to be genuine or otherwise giving rise to irregularity.		Manufacturers or Vendors cau-tioned.	Prosecu-tions.	Remarks on Sample where Caution was given.
	Formal.	In-formal.	Formal.	In-formal.			
Arrowroot	2	—	—	—	—	—	—
Baking Powder	5	1	—	—	—	—	—
Barley	19	—	—	—	—	—	—
Beer and Stout	—	6	—	—	—	—	—
Beef Suct with Flour	13	1	1	—	1	—	Contained slight excess of wheat flour.
Beans, Peas and Lentils ...	38	—	—	—	—	—	—
Bread	1	4	—	—	—	—	—
Butter	53	—	4	—	4	—	Contained slight excess of water.
Candied Peel	4	—	1	—	1	—	Contained excess of preservative.
Cake Decorations	7	—	—	—	—	—	—
Cake and Flour Mixtures ...	29	2	2	2	4	—	Deficient in available carbon dioxide.
Cake and Biscuits	21	1	1	—	1	—	Contained small amount of boric acid.
Cheese and Wrapped Cheese ...	1	—	—	—	—	—	—
Cooked Meats	4	—	—	—	—	—	—
Cocoa, Chocolate and Mixtures	22	—	—	—	—	—	—
Coffee, Mixtures and Extracts...	10	—	—	—	—	—	—
Condensed Milk	—	11	—	—	—	—	—
Confectionery and Sweets ...	46	—	1	—	1	—	Contained small amount of boric acid.
Cornflour	21	—	—	—	—	—	—
Condiments and Spices ...	32	2	—	—	—	—	—
Custard and Blane Mange Powders.	37	—	1	—	—	1	—

Nature of Sample.	Number of Samples.	Samples found not to be genuine or otherwise giving rise to irregularity.		Manufacturers or Vendors cautioned.	Prosecutions.	Remarks on Sample where Caution was given.
		In-formal.	Formal.			
Dried Herbs	7	—	1	—	1	—
Dried Fruit	63	—	—	—	—	Contained slight excess of sand.
Dripping, Lard and Compounds	2	1	—	—	—	—
Drugs	74	2	1	—	1	Old stock. Remainder destroyed.
Flavourings and Colourings ...	11	1	—	—	—	—
Fish Cakes	9	—	5	—	5	—
Flour	36	—	—	—	—	—
Frozen Liquid Whole Egg ...	—	4	—	—	—	—
Golden Raising Powder ...	1	—	—	—	—	—
Gelatine	2	—	—	—	—	—
Gravy Browning	6	—	—	—	—	—
Ground Almonds	5	—	—	—	—	—
Glacé Cherries	7	—	—	—	—	—
Ice Cream	1	145	—	—	—	—
Jams, Jellies and Marmalade ...	22	8	2	—	2	1 deficient in sugar, 1 mouldy.
Lemonade, Powders, etc. ...	4	—	—	—	—	—
Margarine	2	—	—	—	—	—
Malted Foods	1	—	—	—	—	—
Milk	634	4643	59	141	27	21
Oatmeal and Cereal Foods ...	50	—	—	—	—	Caution given to producers where milks were slightly deficient in milk fat.
Olive Oil and Salad Oil ...	2	—	—	—	—	—
Prepared Puddings	7	3	—	—	—	—

Nature of Sample.	Number of Samples.		Samples found not to be genuine or otherwise giving rise to irregularity.		Manufacturers or Vendors cautioned.	Prosecutions.	Remarks on Sample where Caution was given.
	In-formal.	Formal.	In-formal.	Formal.			
Sago, Semolina and Rice ...	49	1	1	—	1	—	The amount of strawberry flavouring in the sample was negligible.
Sauces, Pickles and Chutneys ...	1	17	—	1	1	—	Contained slight excess of copper.
Self-Raising Flour	9	—	—	—	—	—	—
Sugar	23	1	—	—	—	—	—
Sausages and Sausage Meat ...	115	—	25	—	20	5	Slightly deficient in meat content.
Salad Dressing	3	9	1	—	1	—	Incorrectly labelled.
Tea	39	—	—	—	—	—	—
Tinned Beans and Soups ...	3	58	—	4	4	—	Slight excess of metallic contamination.
Tinned Fruit	—	22	—	—	—	—	—
Tinned Vegetables	—	41	—	—	—	—	—
Tinned and Potted Meats ...	—	12	—	—	—	—	—
Tinned and Potted Fish ...	1	37	—	—	—	—	—
Vinegar	15	—	—	—	—	—	—
Wines and Spirits	15	—	—	—	—	—	—
	1584	5033	106	148	70	32	

TABLE XVI.

OFFENCES UNDER THE FOOD AND DRUGS ACT, 1938.

Number of Informa- tions laid	Nature of Sample.	Nature of Offence.	Result of Legal Proceedings.		
			Number of convic- tions	Fines.	Costs.
19	Milk	Contained added water ...	19	£ 14 0 0	59 17 0
2	Milk	Deprived of milk fat ...	2	2 10 0	6 6 0
2	Beef Sausages	Deficient in meat content (deficiency, 14% & 26%)	2	7 0 0	6 6 0
1	Beef Sausages...	Contained undeclared preservative (620 p.p.m. of sulphur dioxide)	1	5 0 0	3 3 0
1	Beef Sausages...	Contained an excessive amount of preservative (125 p.p.m. of sulphur dioxide)	1	2 0 0	3 3 0
1	Pork Sausages	Deficient in Meat Content 13% and contained 5% of Soya.	1	2 0 0	3 3 0
5	Fish Cakes ...	Deficient in Fish Content (deficiency varied from 22% to 70%).	5	10 0 0	15 15 0
1	Blanc Mange Powder	Contained 10% of Mineral matter	1	10 0 0	3 3 0
32			32	52 10 0	100 16 0
					£153 6 0

Fertilisers and Feeding Stuffs Act, 1926.

During 1950, 61 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take any legal proceedings. All samples with minor exceptions were found on analysis to conform with the manufacturers' statutory statement.

Pharmacy and Poisons Act, 1933.

The Pharmacy and Poisons Act, 1933, regulates the sale of poisons. It is the duty of the Local Authority to carry out Part II of the Act,

which deals with the registration of persons selling poisons mentioned in the Poisons List Order, 1949. The number of names entered in the register is 842. It was not necessary to institute any legal proceedings.

Ice Cream.

There was not any legal standard in 1950 for the chemical quality of ice cream, and different makes vary considerably in the amount of fat and sugar which they contain. It is anticipated that by the operation of the Food Standards (Ice Cream) Order in March, 1951, a more satisfactory quality of ice cream will be on sale.

The results of chemical analysis of 130 samples of ice cream taken during the year show that the amount of fat varied between 1·8 per cent. and 16·0 per cent., whilst sugar varied between 6·6 per cent. and 20·9 per cent.

The average of the samples taken showed 7·5 per cent. fat and 15·3 per cent. sugar.

On May 1st, 1947, the Ice Cream (Heat Treatment, etc.) Regulations became operative. The regulations require *inter alia* that the ingredients of ice cream, other than a complete cold mix, shall be heat treated after being mixed and cooled until the freezing process is begun. A complete cold mix, that is a mixture capable of being manufactured into ice cream with no addition except that of water, need not be heat treated. All other mixtures must be raised to a temperature of not less than 150°F. for 30 minutes or 160°F. for not less than 10 minutes. The mixture must then be cooled to not more than 45°F. within 1½ hours and kept at that temperature until frozen for sale.

Ice cream must be protected from contamination by dust or dirt at all times, and not offered for sale unless it has been kept at or below a temperature of 28°F. If the temperature of the ice cream exceeds 28°F. at any time after it has been heat treated and frozen, then it may not be offered for sale until it has been subjected again to heat treatment.

The premises, plant and utensils of all makers and vendors of ice cream, are regularly inspected and during the year, 2204 visits were made to ensure cleanliness of methods of manufacture.

In March, 1947, the Medical Research Council in conjunction with the Ministry of Health recommended that the methylene blue test could be adapted for the purpose of defining 4 grades of bacterial cleanliness of ice cream, in the relative degrees of cleanliness, No. 1 being highest standard. Grade 1 is specified where the time taken for complete decolorization of methylene blue takes $4\frac{1}{2}$ hours or more; Grade 2 where time is between $2\frac{1}{2}$ -4 hours; Grade 3— $\frac{1}{2}$ -2 hours; Grade 4—0 hours, i.e., reduction takes place at the end of the pre-incubation period.

During the year, 331 samples of ice cream were submitted for methylene blue test. The results of examination were as follows:—143 samples qualified for Grade 1; 101 for Grade 2; 34 for Grade 3; 53 for Grade 4.

THE SUPERVISION OF COWSHEDS, DAIRIES AND MILKSHOPS.

Registration of Dairies.

TABLE XVII.

*(Food and Drugs Act, 1938-1944.)
(Milk and Dairies Regulations, 1949.)*

Number of registered dairies at the end of 1949.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1950.
457	22	—	75	404

(14 dairies were transferred from one person to another.)

Inspection of Dairies.

1,390 visits of inspection were paid to dairies. In 45 instances infringements of the Milk and Dairies Regulations, 1949, were found. In every case where a notice of requirements was issued, it was complied with at once.

Registration of Dairymen.

TABLE XVIII.

Number of registered dairymen at the end of 1949.	Applications for transfer of registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1950.
462	14	—	76	408

Of the 408 dairymen on the register at the end of the year, 4 were milk-hawkers who, having no premises of their own, are registered at the dairy from which they obtain their supplies and store their utensils.

Cleanliness of Milk Churns, Bottles and Equipment.

Observations were made at railway stations and other distributing centres to ensure that Regulations 25 and 26 of the Milk and Dairies Regulations, 1949, relating to the marking, construction and cleanliness of milk churns, were complied with. 1 notice was sent to a farmer outside the city drawing his attention to defects in milk churns. In this case the defects were remedied.

During the past year 3 new automatic churn washers have been installed in two dairies. 9 new automatic bottle washers have been fitted and 8 new automatic rotary fillers and cappers are now in operation.

During the past year, 3 complaints have been received from consumers, of milk being delivered in dirty bottles. In these cases the matter was investigated and effective steps taken to prevent any recurrence.

Licensing of Premises for Keeping Cattle.

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle is required to hold a licence from the Corporation both in respect of himself and also in respect of the premises. Tables XIX and XX give summaries of the registers of licences in respect of milch cows and pigs:—

TABLE XIX.

LICENSING OF PREMISES ON WHICH MILCH COWS ARE KEPT.

		End of 1949.	End of 1950.
Number of licensed cowsheds	... ... ...	104	99
Number of cows specified on the licences	... ...	2,069	1,882
Approximate average number of cows kept	...	1,646	1,568

Of the above 99 licences, 22 are issued to persons other than dairymen, who keep store cattle, or cows for the production of milk for their own use, as distinct from persons who produce milk for sale. 1 licence was transferred from one person to another.

302 inspections were made of cowsheds and in 24 cases attention was required to defects and to contraventions of the Liverpool Corporation Act, 1921. All requirements were ultimately complied with and no prosecution was necessary, nor was any licence forfeited because premises were not maintained in proper condition.

TABLE XX.

LICENSING OF PREMISES ON WHICH PIGS ARE KEPT.

	End of 1950.
Number of licensed piggeries	90
Number of pigs specified on the licences	3,284
Approximate average number of pigs kept	1,080

5 new licences to keep pigs were applied for, involving the keeping of 13 pigs. These applications were granted. 13 licences, involving the keeping of 204 pigs, were surrendered. 224 visits of inspection to piggeries were made, 11 piggeries visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921, and in every case the notice was complied with. In farms situated in the outer districts of the city, premises licensed for the keeping of milch cows may be also used for keeping store cattle. At the end of 1950, 445 store cattle other than dairy cows were kept on licensed premises. Two licences to keep 74 store cattle were forfeited and 3 licences involving the keeping of 54 store cattle were granted.

Daily Supply of Milk to Liverpool.

TABLE XXI.

DAILY CONSUMPTION OF MILK DURING 1950.

Grade of Milk.	Quantity in Gallons.
Tuberculin-tested (Farm Bottled)...	266
Tuberculin-tested	1,040
Tuberculin-tested (Pasteurised under licence)	21,062
Accredited	3,322
Raw ungraded	725
Pasteurised under licence	42,713
Sterilized	11,212
TOTAL	80,340

TABLE XXII
DAILY SOURCE OF MILK DURING 1950.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
4,704 gallons	75,446 gallons	190 gallons

TOTAL, 80,340 gallons.

TABLE XXIII

FOOD AND DRUGS ACT, 1937-1944.

MILK, (SPECIAL DESIGNATION) RAW MILK REGULATIONS, 1949.
MILK (SPECIAL DESIGNATION) PASTEURISED AND STERILISED MILK REGULATIONS, 1949.

The following table shows the number of Registered Dairy Farmers who are producing designated milk under the above-named Regulations, all of whom are now licensed to produce designated milk by the Ministry of Agriculture and Fisheries.

In addition, there are shown the distributors of Tuberculin-tested Milk, Tuberculin-tested Milk (Pasteurised), Pasteurised Milk and Sterilised Milk, who obtain their licences from the Liverpool City Council.

Licence.	Tuberculin-Tested Milk.	Tuberculin-Tested Milk (Pasteurised)	Pasteurised Milk.	Accredited Milk.	Sterilised Milk.
Producer Wholesaler ...	5	0	0	4	0
Producer Retailer ...	2	0	0	46	0
Dealer Pasteuriser ...	0	0	14	0	0
Dealer Steriliser ...	0	0	0	0	3
Distributors ...	16	354	255	0	877
Supplementary Licences ...	5	9	10	1	1
Transferred Licences ...	0	7	7	0	41

The following changes in licence holders took place:—

Tuberculin Tested Milk.

- 1 new licence became operative for the production of Tuberculin Tested Milk. (This licence was granted by the Ministry of Agriculture and Fisheries.)
- 5 new licences (supplementary) were issued to sell Tuberculin Tested Milk.

Tuberculin Tested Milk (Pasteurised).

- 72 new licences to sell Tuberculin Tested Milk (Pasteurised) were issued.
- 7 licences were transferred from one person to another.

Pasteurised Milk.

- 4 new licences were granted for the Pasteurisation of Milk; 3 of which were for the Holder type plant and 1 for the H.T.S.T. method.
- 2 licences to Pasteurise milk became inoperative.
- 7 licences to sell Pasteurised Milk were transferred from one person to another.
- 255 new licences were granted for the sale of Pasteurised Milk.
- 9 supplementary licences were granted for the sale of Pasteurised Milk.

Accredited Milk.

- 3 producers of "Accredited Milk" forfeited their licences on ceasing to produce milk. (These licences were issued by the Ministry of Agriculture and Fisheries.)
- 1 supplementary licence to sell "Accredited Milk" was issued to a distributor.

Sterilised Milk.

- 242 new licences to sell Sterilised Milk were granted.
- 1 supplementary licence to sell Sterilised Milk was granted.
- 41 licences to sell Sterilised Milk were transferred from one person to another.

Of the 877 licenced distributors of Sterilised Milk 242 are issued to registered dairymen.

Milk Pasteurisation.

The following methods of Pasteurisation of Milk were adopted:—

14 establishments are now operating Pasteurising plant of the following types and capacities:—

9 establishments are fitted with Holder type or Batch Pasteurisers with a total of 12 units of capacities varying from 75 gallons to 200 gallons.

5 establishments are fitted with High Temperature Short Time plant with a total of 7 units of capacities varying from 450 gallons per hour to 2,500 gallons per hour.

2 establishments have been closed down during the year and H.T.S.T. plant has been transferred to a new model dairy.

1 change-over from the Holder Process to the H.T.S.T. method is in process of being effected and will be operating in January, 1951.

During the year, 72 visits were paid to Pasteurising establishments during the pasteurisation of milk for the purpose of checking the temperature recorders. In 14 instances it was found that the recorders required adjustment. In each case the necessary adjustment was made and upon examination the plant was found to be operating correctly.

Milk Sterilisation.

One new establishment is being opened for the Sterilisation of Milk; this will be in operation early in 1951.

1,140 visits were made to shops where Sterilised Milk was sold on licence.

During 1950, 1,789 licences were issued by the department and 462 dairymen were issued with new Registration Certificates under the 1949 Regulations.

AMBULANCE SERVICE.

The number of removals during 1950 compared with previous years suggests that the demand has not yet reached its peak. The total removals for the year increased by 11,364, or 12·1 per cent., compared with 1949.

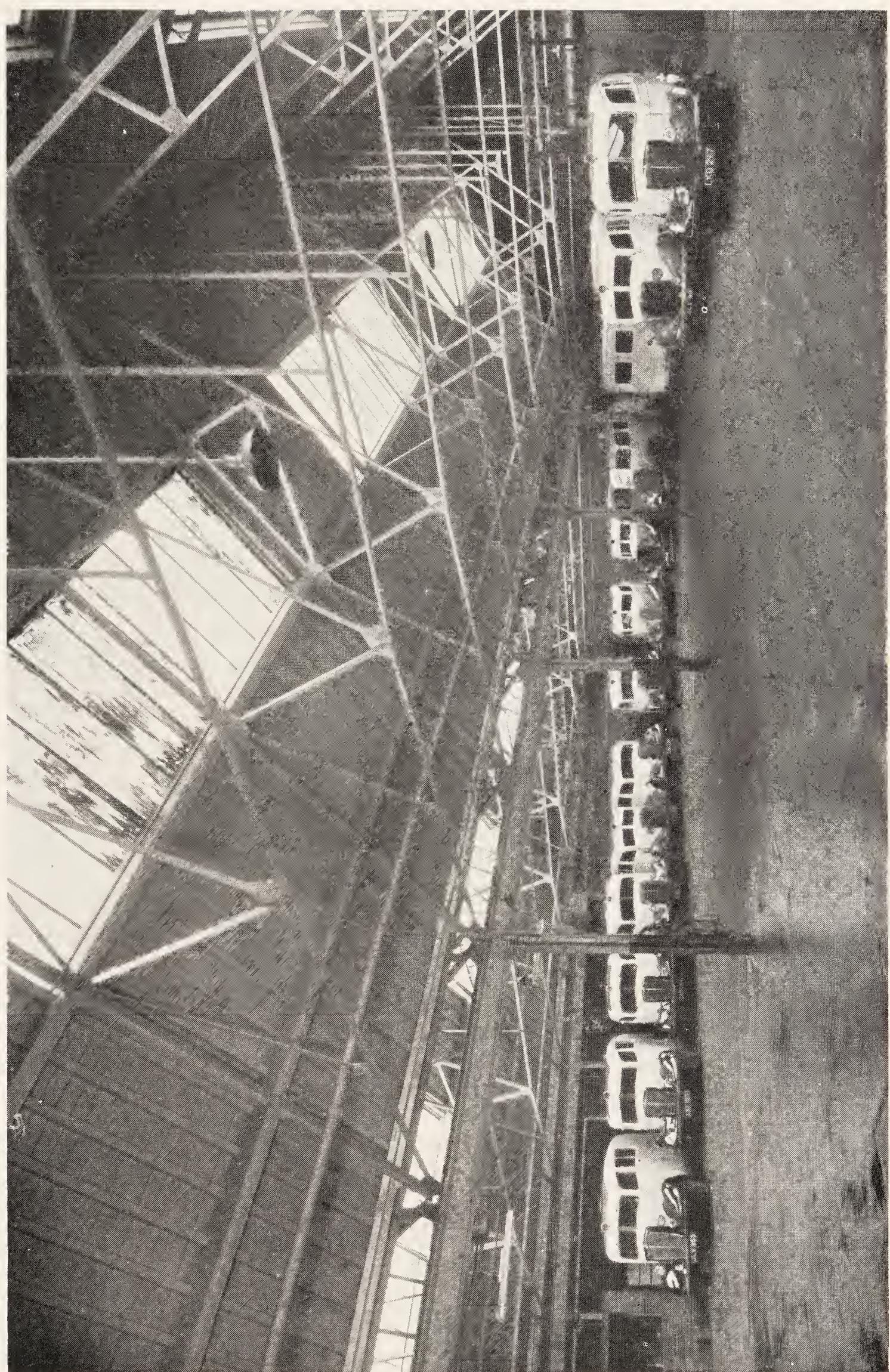
Cases continue to be conveyed to places outside the Local Authority's area, and charges are made in accordance with the National Health Service (Amendment) Act, 1949. Arrangements have been entered into with neighbouring local authorities, whose vehicles are regularly bringing cases into Liverpool, for them to convey cases back in their own vehicles instead of returning empty. These arrangements are operating efficiently and effecting economy.

Considerable work is involved in removing patients arriving at the landing stage, docks and airport from overseas. Persons arriving in this manner have been conveyed to various parts of the country, each case being carefully investigated and, whenever possible, transport is arranged by train.

Infectious cases are removed by staff and vehicles of a separate depot at Gascoyne Street. The figures, compared with 1949, show an increase of 11·6 per cent., caused by the new procedure whereby many tuberculous cases are receiving regular clinic treatment. This depot maintains a bed bureau for infectious cases, which is used extensively by neighbouring authorities to enable them to obtain bed vacancies in Liverpool for their cases. The staff consists of one Station Officer, 14 Driver-Attendants, with 8 ambulances.

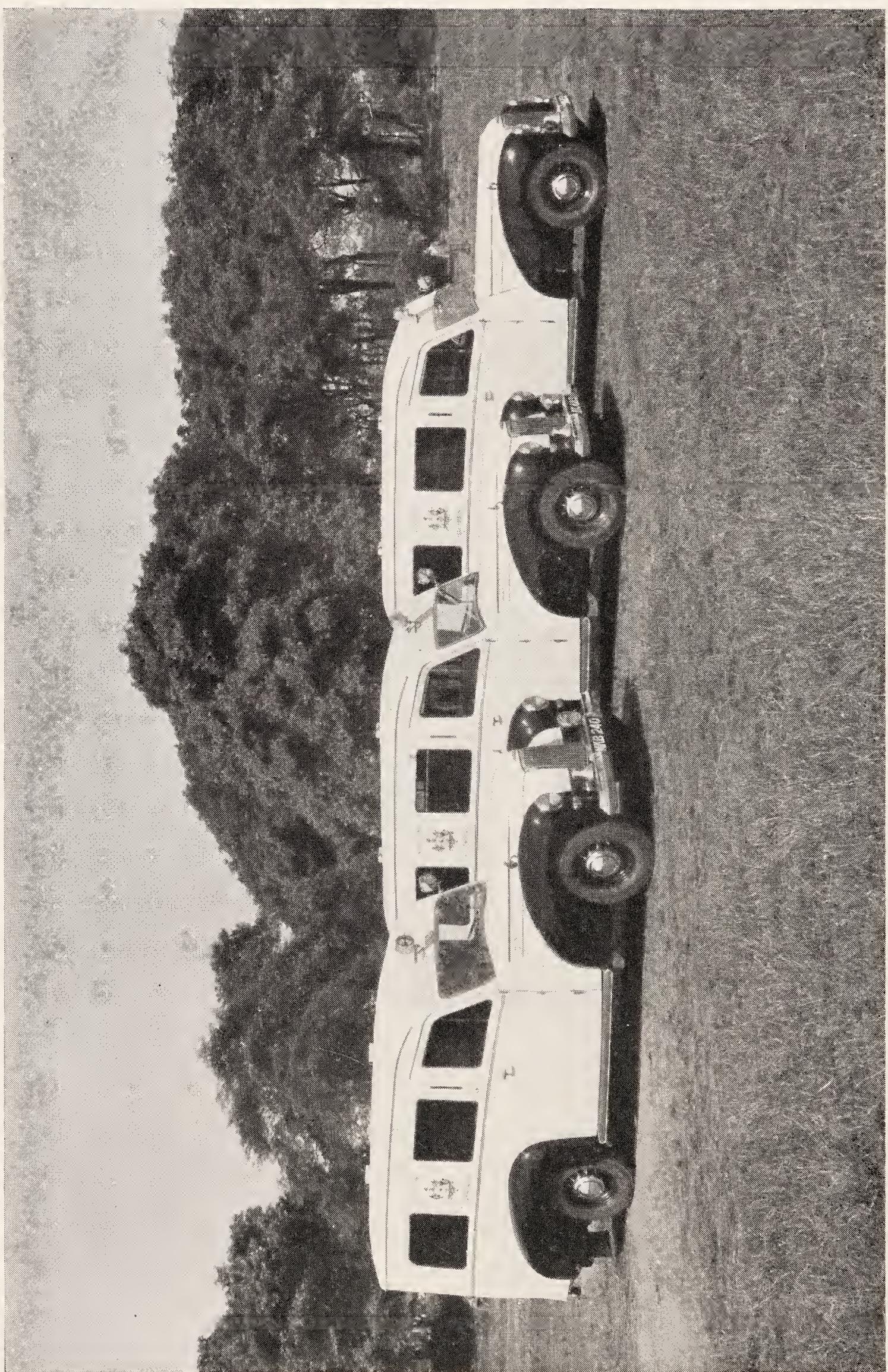
Arrangements are in existence for smallpox cases occurring in the area of the Cheshire County Council or the Birkenhead County Borough Council, and Bootle County Borough Council, to be removed by the Liverpool Ambulance Service. During the year under review, there were no cases for removal.

Removals continue to be undertaken on behalf of the Lancashire County Council until such time as that authority obtains additional



CITY AMBULANCE.—MAIN DEPOT, BELMONT GROVE, LIVERPOOL, 6

CITY AMBULANCES



vehicles and depots. Removals formerly undertaken on behalf of Bootle County Borough Council have now ceased.

During the year, 7 new ambulances and 2 new cars have been delivered, and 6 old ambulances and 3 old cars have been sold. The present active fleet comprises 39 ambulances, 11 sitting-case cars and 4 shooting brakes. In addition, 11 Chevrolet Ambulances have been retained in reserve for possible use in Civil Defence.

53,986 gallons of petrol have been consumed during the year which, compared with 1949 figures, shows an increase of 5,022 gallons. An analysis reveals that ambulances used for general removals travelled between 12 and 14 miles per gallon, while smaller types of vehicles used solely on accident work travelled between 9 and 10 miles per gallon.

Proposed alterations to the Belmont Grove Ambulance Depot in order to provide better access to the main road and improved office accommodation will, it is hoped, be carried out in the near future.

The accident ambulances continue to be housed in certain police premises as follows:—

- 1 at Westminster Road.
- 1 at Seel Street.
- 1 at Heald Street, Garston.
- 1 at Rose Lane, Allerton.
- 1 at Derby Lane, Old Swan.

Requests have been received for these vehicles to be removed to other accommodation and, as a first step, provision will be made at Westminster House for the ambulance now at Westminster Road.

The administrative staff of the Service comprises 1 Chief Ambulance Officer, 1 Assistant Ambulance Officer, 1 Senior Control Assistant, 4 Control Assistants, 2 Clerks and 1 Telephone Operator. The operational staff, including the infectious depot, numbers 81 Male Driver-Attendants, 13 Male Attendants and 21 Female Drivers and, with the exception of 7 Driver-Attendants, all are qualified in First Aid.

The maintenance staff, comprising 1 foreman mechanic, 6 mechanics and 1 labourer, carry out the general repairs and maintenance of the ambulance fleet at Belmont Grove Depot. Extensive body repairs and re-painting have been carried out by outside contractors.

The Merseyside Hospitals Council Ambulance Service, operating on an agency basis on behalf of the Liverpool Corporation, has carried out much useful work. The 16 ambulances operated by this service removed 44,979 patients during 1950, and travelled 163,304 miles. The staff comprises 1 Ambulance Manager, 3 Clerks, 27 Driver-Attendants, 1 Mechanic, 1 Labourer and 1 Cleaner, and the vehicles are housed in a central depot.

The use of the Hospital Car Service has been considerably reduced, and during the year only one patient was regularly conveyed for medical treatment.

STATISTICAL REPORT.

1ST JANUARY, 1950 TO 31ST DECEMBER, 1950.

Non-infectious cases removed from:

Home to Hospital	...	...	...	...	46,733
Hospital to Home	23,703

Infectious cases removed from:

Home to Hospital	5,074
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Mental cases removed from:

Home to Hospital	373
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Accident cases removed from:

Home, Streets, etc., to Hospital	7,494
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Inter-Hospital transfers	10,417
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Removals to and from places outside the City	4,270
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Total	...	98,064
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Cases requiring the Service of Ambulance Sisters	8,043
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VEHICLES.

Ambulances.	Number in Service.	Mileage covered.	Petrol used (gallons).
Non-infectious	...	24	345,928
Infectious	...	9	72,775
Accident	...	6	44,426
Sitting case cars	...	11	135,282
Brakes...	...	4	33,749
TOTALS	...	54	632,160
			53,986

DISINFECTION AND DISINFESTATION.

The staff of the Disinfection and Disinfestation Section is engaged primarily on duties concerned with the prevention of disease, and the disinfestation of verminous premises, but there are other duties for which the section is responsible, and these are also shown in the following summary :—

INSPECTIONS FOR VERMIN.

During the year, the Disinfestation Inspectors made 6,255 visits to dwelling-houses to inspect for vermin. The reason for their visits and the results of their inspections are given in the following table :—

Reason.				Verminous	Not Verminous	Total.
Transfer	...	...	...	5	74	79
Exchange	...	...	...	23	1,280	1,303
Re-housing	...	...	...	809	1,726	2,535
Other Inspections	...	...	...	173	2,165	2,338
TOTALS			...	1,010	5,245	6,255

TREATMENT OF VERMINOUS PREMISES.

In consequence of the Disinfestation Inspectors' visits, 896 dwelling-houses were disinfested. Of these 470 were treated with a D.D.T. solution and 426 with GAMMEXANE solution.

In 695 cases where re-housing was intended, the furniture which it was proposed to remove was treated with a suitable insecticide. This system has superseded the method whereby free removal of furniture and cyanide treatment was arranged for new tenants of Corporation properties.

In connection with the disinfestation of verminous premises, it was found necessary to remove verminous bedding from 1,294 dwelling-houses for steam disinfection.

Arrangements have been made with a number of local firms and undertakings for the periodic disinfection of their canteens, locker rooms, etc. Under these arrangements 147 treatments were carried out during the year, the cost being defrayed by the firms concerned.

DISINFECTION.

4,451 infectious premises were disinfected during the year and 18,463 infectious articles removed for steam disinfection.

DISINFECTING STATIONS (CHARTERS STREET AND SMITHDOWN ROAD).

The two disinfecting stations dealt with the following materials during the year:—

15,536 verminous articles from premises in course of disinfection.

18,463 infectious articles and 1,554 library books from premises and ships where infectious disease had occurred.

930 infectious articles on behalf of Bootle Public Health Department.

391,910 articles for precautionary disinfection on behalf of local firms, who defray the cost of such treatment.

582 tons of miscellaneous goods for export, the outer wrappers of which required treatment by sulphur dioxide.

FLY PREVENTION.

Fly prevention measures were continued by 3,746 treatments of manure middensteads and dumps. These measures met with a considerable amount of success.

CITY MORTUARY, PEMBROKE GARDENS.

The City mortuary received 457 bodies during the year. Post-mortem examinations were held on 400 of these bodies. In addition, the bodies of 24 stillbirths were received.

BURIAL OF POOR PERSONS.

The burial or cremation of poor persons who died in the City is a duty which is undertaken. During 1950, 128 adults and children, and 24 still-born babies were buried, and 8 adults cremated.

The department has an arrangement with local Hospital Management Committees for the transport of bodies between hospitals. 112 bodies were removed under this arrangement, the cost of which is borne by the committee concerned.

During the year, a food distribution centre and a textile reserve store have been established at Gascoyne Street Depot. This store is responsible for supplying food, textiles, cleaning materials, etc., to 15 Day Nurseries, 13 Maternity and Child Welfare Clinics, 5 Aged Persons' Hostels, and 9 other establishments.

TRANSPORT.

Food, stores or equipment are conveyed by motor-vans from this Section to :—

- Maternity and Child Welfare Centres,
- Day Nurseries,
- Domiciliary Midwives,
- Aged Persons' Hostels,
- Children's Department Establishments, and
- Police Training College.

The movable property of persons admitted to hospital, or to accommodation provided under Part III of the National Assistance Act, 1948, is conveyed, where necessary, to and from store. The transport of food for persons in temporary accommodation at 100, Walton Village, is also undertaken.

STAFF.

The staff of this Section consists of 12 officers and approximately 40 manual employees.

11 vehicles are in continual use, and during the year have covered 78,720 miles.

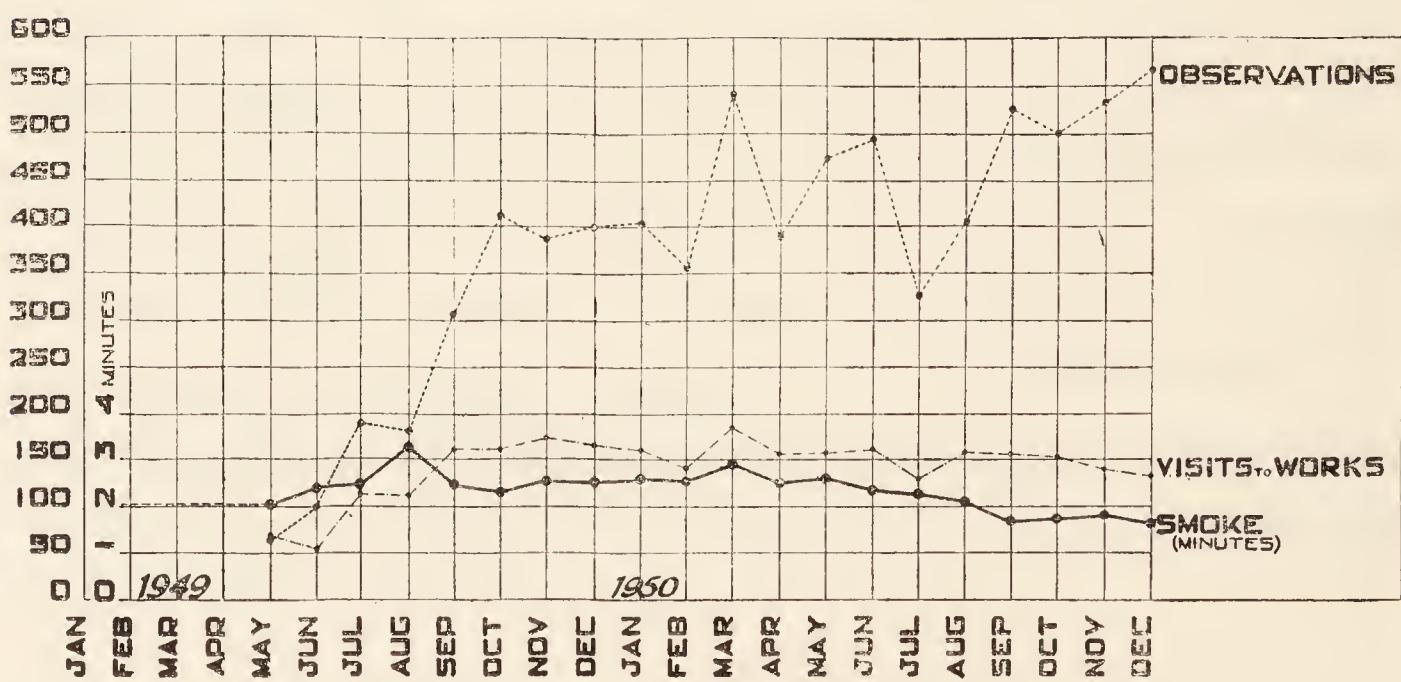
SMOKE ABATEMENT.

The work of smoke abatement has continued during the past year with further signs of success as the accompanying graph shows, but towards the end of the year the deterioration in the national fuel situation appeared as a warning that difficulties would increase in obtaining continued improvement.

The policy of the Department in seeking co-operation of manufacturers, ship owners, engineers and boiler-house staffs in the prevention of smoke nuisances again proved successful and in only one case was it found necessary for the service of an Abatement Notice.

Graph I shows the record of timed observations and average smoke emissions for 1950 continued from those of 1949, together with the number of advisory visits to premises made by the Smoke Inspectors following excessive smoke emissions from chimneys.

GRAPH 1.
**MONTHLY SMOKE OBSERVATIONS
AND AVERAGE EMISSION**



Industrial Smoke.

There was a general increase in trade and considerable reconstruction of plant during the year which resulted in an increase in the

demands for fuel, and the Department was informed of proposals for further reconstruction within the next few years. There is, however, some concern as to the effect the present economic and international situations will have on the extent of development, some manufacturers having expressed their fears of increasing or improving plant without a guaranteed supply of suitable fuels.

One or two manufacturers were concerned as to their position under Town Planning and, although not optimistic regarding their transfer to newly-planned sites and premises in the near future, were not prepared to consider heavy expenditure on existing boiler plant. As some of this plant is very old some difficulty was experienced in obtaining satisfactory prevention of excessive smoke.

Timed observations of industrial chimneys and advisory visits to works by the Smoke Inspectors have been maintained throughout the year at a satisfactory level and in spite of the above conditions there was a definite reduction in the emission of excessive smoke as indicated on the graph.

Visits by the Smoke Inspectors to industrial premises have revealed that causes of excessive smoke were in great part due to lack of knowledge and carelessness in operating furnace fires, although in many cases inferior or low grade fuels contributed to the problems even where skill and care were evident. In a few other cases the cause was due to non-co-operation by the fireman.

Other causes of smoke were due to hand-firing boilers which could more efficiently be mechanically stoked, and to the defective condition of mechanical stoking and draught equipment for which replacements were very much delayed. Failure to obtain suitable fuels for efficient mechanical stoking aggravates this and in some cases has prohibited the conversion from hand firing to mechanical stoking. Overloaded boiler plants contributed their share of excessive smoke pollution as well as one or two cases where wood refuse was being fired in furnaces not constructed to consume that type of fuel.

With the object of instructing firemen and stokers in correct and efficient methods of boiler and furnace operation a film show was

arranged by the Department at which instructional films dealing with the subject in a practical manner were shown. Some eighty firemen and engineers attended and showed considerable interest in the films. Technical advice and practical demonstrations were frequently given to firemen, works engineers and owners of factories by the Smoke Inspector during their visits to works.

A number of conversions of boiler plant to mechanical stoking with improved types of coking stokers have taken place, and one firm has installed the new chain grate type of stoker on a Lancashire boiler. These improved types of mechanical stoker appear to have solved the smoke and grit problem which develops when inferior or low-grade fuels are being used.

Excessive smoke from vertical boilers and slow combustion heating stoves which were found to be burning bituminous coal has been prevented by a change to coke fuel, but during the latter part of the year cases were reported of difficulties being experienced in obtaining supplies of coke. In such cases firemen were instructed as to the best methods of firing raw coal so as to keep the amount of excessive smoke to a minimum.

Following recommendations by the Department, a number of experiments were carried out by the Corporation Baths Engineer in the burning of gas coke on Lancashire-type boilers. Results were most satisfactory and conversion to this smokeless fuel was carried out at seven of the Corporation Baths and Wash-houses. This was a valuable contribution to smoke abatement and the experiments proved the adaptability and value of gas coke for this type of boiler. Conversion of other types of industrial boiler from raw coal to coke burning have also been successful, including Cochran, Economic and Cornish boilers. Unfortunately, towards the end of the year the coke supply situation became difficult and reduced the opportunities for further conversions from raw coal.

Smoke from certain metallurgical furnaces has been considerably reduced following instructions by the Smoke Inspectors as to efficient methods of firing without interfering with the metallurgical processes.

Railway smoke continues to add materially to atmospheric pollution in the City and at times is entirely responsible for the smoke haze in the streets near the City railway termini. Electrification of the railways is the only permanent solution, although it could be a great improvement if electric or diesel engines could take over from steam engines at the City boundaries. Even that would be a colossal problem involving the siting of engine sheds, etc., and can only be regarded as part of a future long term policy. In the meantime railway firemen continue to be instructed by means of films and otherwise, in the efficient ways of firing and smoke prevention.

With the advent of cold weather, a number of complaints were received regarding smoke from the very low chimneys of small workshops, garages, etc. Raising the heights of the chimneys and the use of smoke-less fuel resulted in an abatement of these nuisances.

Improvements recorded by the Smoke Inspectors which have been carried out during the year in industry and which have resulted in the abatement of a great deal of smoke pollution total 81 and include:—

Fuel changed from coal to coke	...	...	...	...	...	31
Chimneys raised	...	...	...	...	...	23
Provisions for indicating smoke (mirror, instruments, etc.)	...					4
Improvements to plant	...	...	...	...	...	4
Fuel upgraded	...	...	...	...	...	4
More boiler power provided	...	...	/	...	...	4
Conversions—solid fuel to electricity or gas firing	...					3
Chimneys repaired	...	...	...	...	...	2
Furnaces reconstructed to burn smoke	...	...	...	...	...	2
Grit arrestor fitted	...	...	...	...	...	1
Incinerators built	...	...	...	...	...	2
Conversion—hand firing to mechanical stoking	...					1
<hr/>						
Total improvements	...					81
<hr/>						

Grit Emission from Chimneys.

In addition to smoke nuisances, complaints were received of heavy grit emissions and investigation showed the complaints were fully justified. The cause of grit was the use of forced draught and sprinkler type mechanical stokers on boilers using fuels containing a large percentage

of "fines" instead of fuels graded for the purpose, which were unobtainable in adequate supplies.

The provision of grit arrestors was found to be impracticable or uneconomical and the co-operation of the Ministry of Fuel and Power was sought with a view to upgrading the fuel. In two cases in the centre of the City graded fuel was supplied and the grit nuisance was abated; in the case of another establishment experiments were carried out with different grades of available fuel without success, and it is now proposed to reconstruct the offending plant with the new type of coking stoker.

It is hoped that manufacturers will bear in mind the possibility of supplies of suitably graded good quality fuel being restricted for many years to come and that in installing new plant will make provisions to accommodate the available fuel in order that subsequent trouble may be avoided.

Smoke from Shipping.

Concentrated attention has again been given to smoke from shipping on the River Mersey and in the Liverpool Docks, and whenever possible advisory visits have been made by the Smoke Inspectors to offending vessels and the Master or Engineer has been interviewed.

In almost all cases where such visits and inspections were made, the cause of smoke was found to be carelessness in firing the boiler furnaces or in attending to oil-burning apparatus.

In one case, modifications to the draught system, including lengthening of the funnel, brought about considerable improvement. In other cases the payment of a "no smoke bonus" shows satisfactory results.

Smoke Inspection Procedure.

Smoke abatement duties are carried out under the Public Health Act of 1936 and a Byelaw made thereunder. Action regarding shipping can, if necessary, be taken under the Liverpool Corporation Acts of 1921 and 1936, but it is hoped that the present method of co-operative working between the Department and both owners of factories and ship owners will continue to give the desired results.

The smoke inspection work carried out by the Department during 1950 is shown in the following figures:—

Total number of timed observations of chimneys—

Factories	...	...	...	...	...	4,439
Shipping	...	...	...	...	...	1,082
Average excessive smoke emission per half-hour observation						2·19 min.
Number of advisory visits to works, ships, etc.	...	...	...	...	...	951
Number of other visits to works, etc.	...	...	...	...	...	870
Number of complaints of smoke nuisance dealt with	...	...	...	...	...	71
Number of improvements to plant, etc.	...	...	...	...	...	81

Smoke from Commercial and Business Premises.

This may be regarded as including smoke from central heating plant, cooking ranges and open fires in office blocks, hotels, restaurants, warehouses, hospitals and institutions, salesshops and stores, etc., and as the colder months of the year approach a marked increase of atmospheric pollution is noticeable to which these premises add their quota.

The apparently small amount of pollution contributed by each of the thousands of commercial and business premises chimneys, particularly in the City business area, which serve fires using raw coal, quickly forms a fog blanket over the City as fires are lighted up in the mornings.

The remedy is to be found in measures to prevent the burning of raw coal in any open fireplace or heating range unless fired by suitable mechanical means or by the efficient use of smokeless solid fuel, oil fuel, gas or electricity. Such requirements are an essential part in the formation of smokeless zones, but difficulties in securing an adequate supply of these smokeless fuels at present preclude the development of such a zone.

The proposed local extensions and developments in the production of electricity, gas and coke should, however, enable serious consideration to be given to the formation of a smokeless zone in the near future.

It is hoped that every effort will be made for offices and premises under control of the City Council to have open fires changed from burning raw coal to using smokeless fuels, so that an example can be held up to other raw coal users, and that the daily smoke pall over the City during the cold months may be somewhat reduced.

Smoke from the Burning of Trade Refuse.

Among the complaints received of smoke from the burning of trade refuse in the open were some which showed on investigation that rubber and bituminous covered electric cable was being heated for the recovery of copper and lead. In view of the present high prices of these metals the industry appeared likely to be extended. This process of metal recovery, unless carried out in a properly constructed furnace, leads to a heavy emission of black smoke and obnoxious odours, and in two cases, on the instructions of the Smoke Inspectors, properly designed furnaces have been constructed in which the smoke emitted is consumed in a secondary firegrate. In one case the chimney was raised; in another case burning in the open has been prohibited following service of an Abatement Notice.

Fumes, Smells and Noise.

A number of complaints of fumes and smells have been investigated and dealt with in conjunction with the local Inspectors of Workshops and Factories and representations to one establishment following receipt of a number of complaints of noise from steam exhausts resulted in a reduction of the noise.

Domestic Smoke.

It is estimated that in Liverpool domestic smoke causes approximately fifty per cent of the total amount of atmospheric pollution. This is aggravated by the wilful or neglectful firing of dirty chimney flues, instead of having them regularly swept. Prosecutions for this class of offence are carried out by the Police and the number of such prosecutions for the year was 400.

The continued increased use of gas and electricity and the provision of smokeless firegrates and appliances in new houses is reducing the smoke nuisance from domestic chimneys to some extent, but the problem cannot satisfactorily be solved so long as existing bituminous coal burning fireplaces are maintained in use and the supply of solid smokeless fuels is restricted or their cost remains high.

A valuable asset in the fight against domestic smoke pollution was the interest shown by the general public in the modern type of coke-burning open grate and the large number of sales of these firegrates during the year. Unfortunately the shortage of supplies of gas coke

towards the end of the year prevented satisfactory development further on these lines.

Another factor in the reduction of pollution was the increased use of gas and electricity for domestic purposes, some 6,443 million cubic feet of gas being consumed in 1950 compared with 4,253 million cubic feet in 1938. Of a total of approximately 195,000 houses in the City, approximately 50,000 are using electricity for cooking whilst many others employ this form of power for heating.

Lectures on Smoke Abatement and Fuel Economy.

A course of evening lectures on smoke abatement and fuel economy is held during the winter months of 1950/51 and some 50 students have enrolled. Demonstrations for students arranged at works and public institutions are well attended, and it is felt that this form of education of firemen, stokers and boiler and furnace operators in the scientific use of fuels, is a valuable contribution to the solution of the industrial smoke problem.

National Smoke Abatement Society.

A representative of the Department attended meetings of the North-Western Branch of the National Smoke Abatement Society, the Smoke Abatement and Fuel Efficiency Exhibition in Manchester and also the Annual Conference of the Society at which the problems of railway smoke and domestic smoke were dealt with.

Atmospheric Pollution.

Co-operation in atmospheric pollution research with the Department of Scientific and Industrial Research has continued during the year and to whom results have been forwarded each month. Measurements of deposited and suspended impurities in the atmosphere have been carried out by the Department by means of three Standard Deposit Gauges and one Owen Automatic Air Filter.

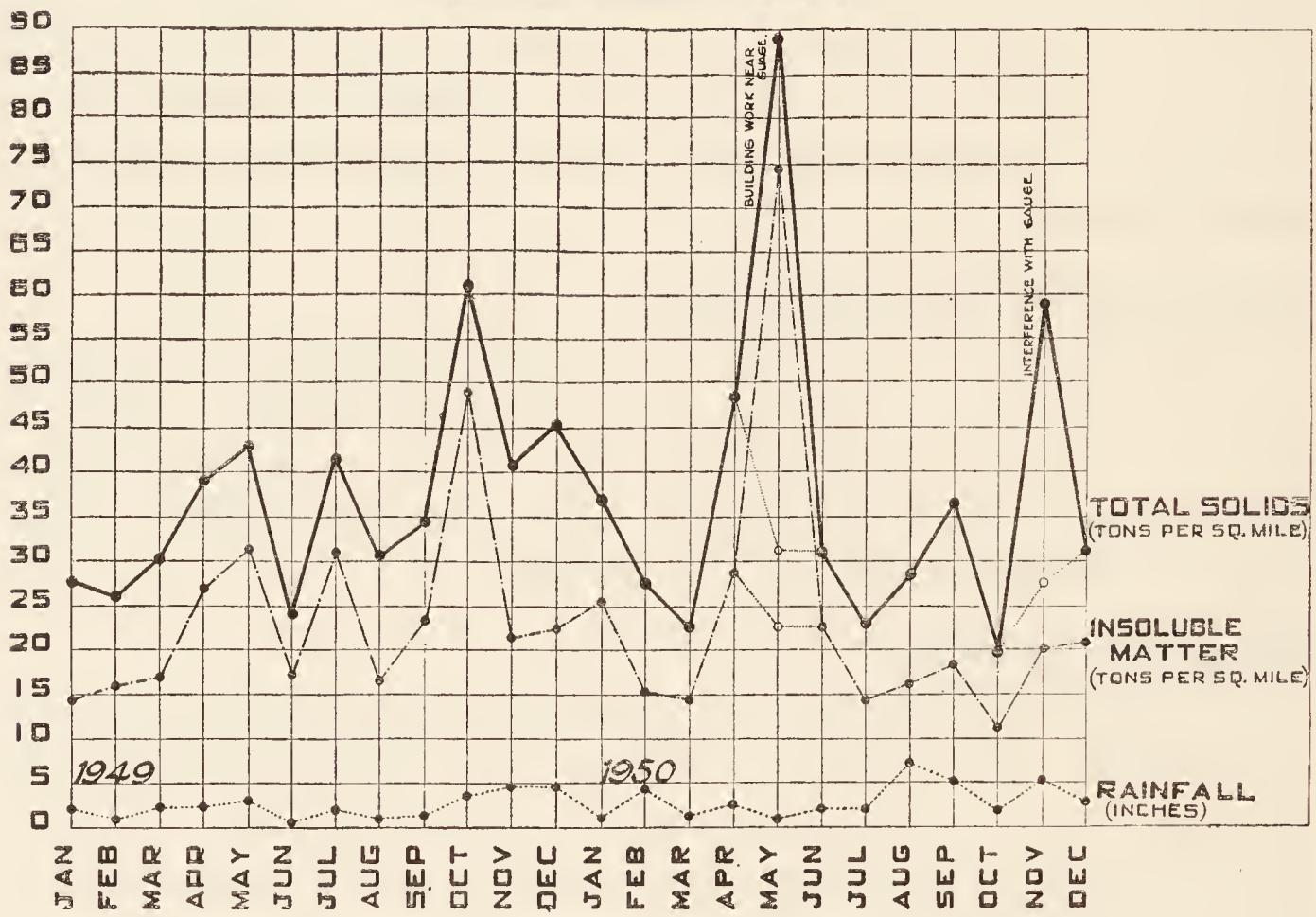
Standard Deposit Gauges.

The deposit gauges are situated at Netherfield Road where a general indication of conditions in a thickly-populated and industrial area are obtained; Oxford Street where conditions are sub-average City Centre conditions; and at Aigburth Vale where conditions are those of a residential area with large open spaces subject to drifting pollution from other areas.

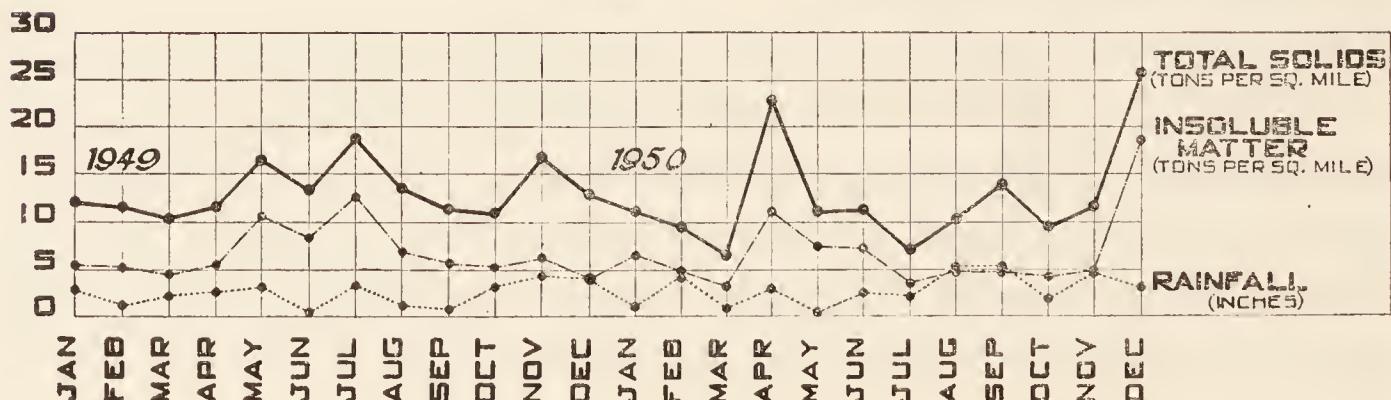
The extent of deposited pollution is indicated in tons per square mile of total solids deposited on the surface and the amount of undissolved mineral matter, such as soot from domestic chimneys and grit from industrial chimneys, etc. Results for 1950 are shown in the following graphs with those for 1949 as a comparison.

Atmospheric pollution as recorded by these gauges is relative to rainfall because the suspended impurities are washed out of the atmosphere into the gauge bowls and consequently the rise and fall of the pollution curves will be seen generally to follow the rainfall curve.

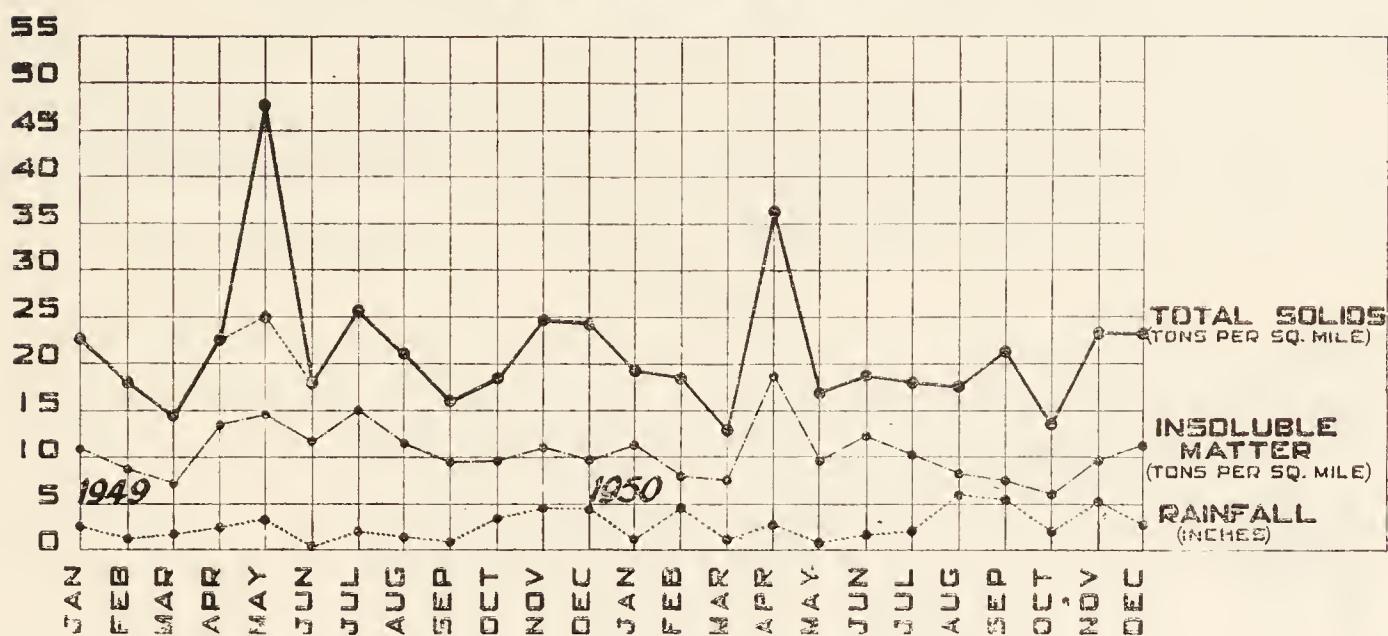
GRAPH 2.

NETHERFIELD ROAD

GRAPH 3.

AIGBURTH VALE

GRAPH 4.
OXFORD STREET



The abnormally high peak for May, 1950, in the Netherfield Road graph was due to certain demolition and building work being carried out in close proximity to the gauge and the rather higher than normal peak in that graph for November was due to interference with the gauge which resulted in foreign matter being collected.

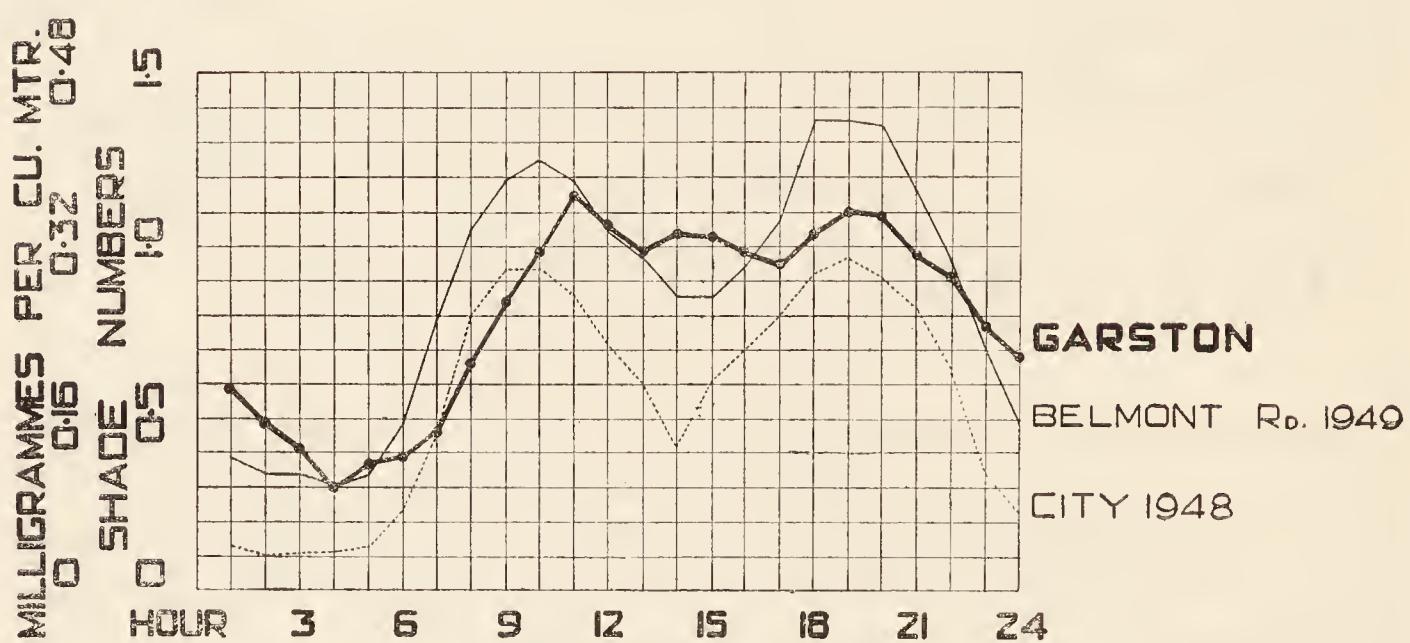
Automatic Air Filter.

Suspended impurities are measured by means of the Owen Air Filter, which draws two litres of air at regular intervals through a disc of white filter paper. The filtered impurities form a smudge on the paper and the intensity of the smudges is checked against readings from a standard of shade numbers. From these shade numbers the amount of suspended impurities is calculated in milligrammes per cubic metre.

For twelve months up to 1st June, 1950, this Air Filter was sited at Belmont Road and was then transferred to the Corporation Baths at Garston. Results of readings shown by the instrument are given in the following graphs. Comparison between the amount of suspended impurities recorded at each site can thus be made, although it should be noted that Belmont Road record is for the period June, 1949, to May, 1950, and the Garston record is for the period June to December, 1950. It has been found that the average for the shorter period is generally somewhat lower than for the twelve months. In order to obtain a true record for satisfactory comparison of the degree of pollution at any time throughout the City, it is estimated that ten or twelve of these instruments should operate simultaneously at selected sites.

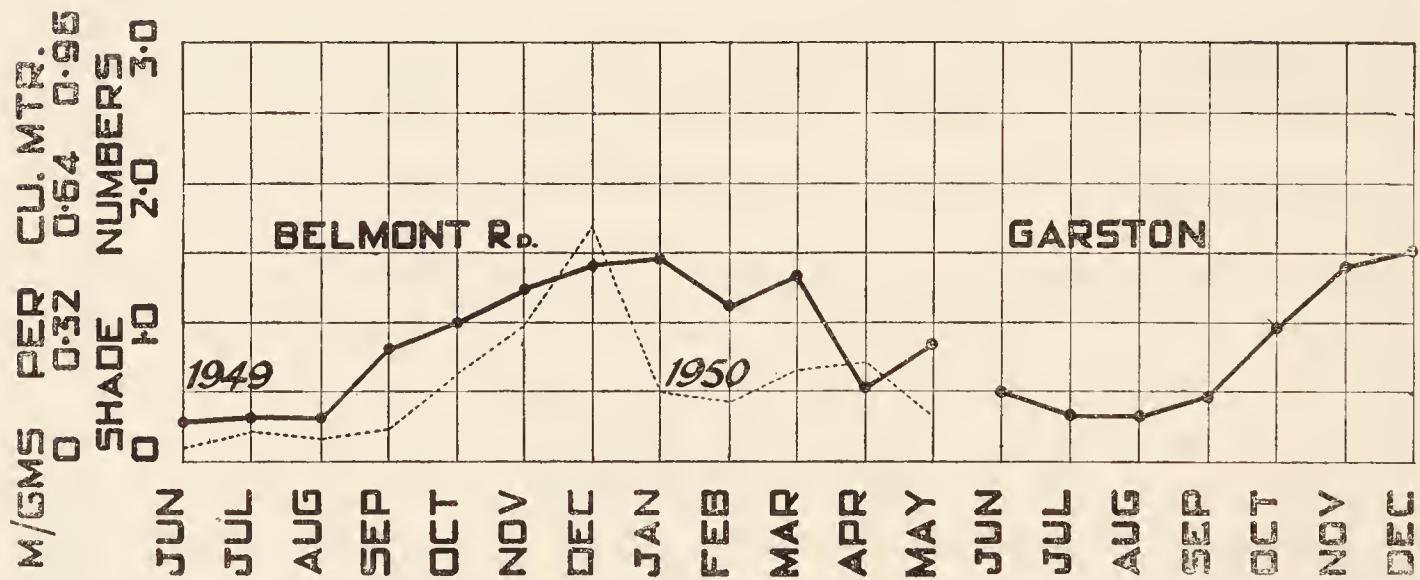
Graph 5 shows the daily average, hour by hour, throughout the months of June to December, 1950, at Garston, with the average curve for the period June, 1949, to May, 1950, at Belmont Road superimposed. The corresponding curve for pollution near the City centre in 1948 is also superimposed for comparison. In this graph the morning and evening peaks are clearly indicated; they are due to stoking up domestic and other fires for mid-day and evening meals.

GRAPH 5.



Graph 6 shows the average daily pollution, month by month, from June to December, 1950, at Garston with the average curve for the period June, 1949, to May, 1950, at Belmont Road superimposed.

GRAPH 6.



Compared with Belmont Road area, which is mainly working-class residential, with an industrial area, gas works and railway sidings $1\frac{1}{4}$ miles to the S.E., the Garston recordings are those for a similar area close to railways, gas works and industry, with Garston docks within half-mile.

SANITARY ADMINISTRATION.

During the year the district sanitary inspectors made 242,059 inspections and visits for the investigation and suppression of nuisances. The total number of nuisances reported was 75,605.

Complaints in many cases were made at the department only after repeated requests addressed to the persons causing or permitting the nuisance, or to the owner or agents of property, had been ignored. A great deal of the time of the inspectors is taken up by these special investigations.

Requests to examine important public buildings and offices, as well as dwelling-houses of high rateable value are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system of such premises.

During the year, 37,623 complaints of nuisances were received as compared with 39,326 the previous year.

The number of notices served for the abatement of nuisances was 32,930 informal, and 23,332 statutory, 929 of the latter being served for the provision of dustbins.

In 212 cases legal proceedings were instituted at the City Court for failing to comply with notices served by the department under the Public Health Act, 1936, and the Liverpool Corporation Act, 1921.

Departmental References.

The co-operation which the Public Health Department received from other departments of the Corporation is fully appreciated, and as a result many sanitary defects are observed, and at once dealt with by the department. The number of references so received was 3,970, whilst the number of references to other departments was 9,712.

Infected Houses.

The following table shows the number of houses visited where notifiable infectious diseases have occurred, with the number of visits

made by sanitary inspectors to these houses, and to houses where cases of non-notifiable infectious diseases have been reported to the Health Department by the Education Department:—

Number of investigations relating to cases of infectious disease ...	... 7,312
Number of inquiries regarding contacts of cases of infectious disease ...	... 137
Number of visits to infected houses ...	... 8,051
Number of visits to tuberculosis cases ...	... 1,372
Number of inquiries relating to suspected smallpox contacts	53

Drain Testing.

During the year, 2,707 drainage systems were tested, 544 by colour test of which 246 were positive and 298 negative, 570 by smoke rocket test, 216 were positive and 354 negative, 1,593 by smoke machine test, of which 864 were positive and 729 negative. Where defects have been revealed by these tests, repairs have been carried out. In the case of tests of large buildings and offices, as well as dwelling-houses of higher rateable value, the assistance of the City Engineer and Surveyor's Department has been utilised.

Factories and Workplaces Inspection.

Factories Act, 1937, and Public Health Act, 1936.

All factories and workplaces are visited by inspectors appointed under the Act, the various premises being grouped in districts so as to secure the maximum number of visits in the minimum time.

Factories Act, 1937.

Part I of the Act.

Prescribes particulars of the administration of the Act at the request of the Ministry of Labour and National Service. (Form 572 revised.)

1. INSPECTIONS for purpose of provisions as to health (including inspections made by the Sanitary Inspectors):—

Premises. (1)	M/c. Line No. (2)	Number on Register. (3)	Inspec- tions. (4)	Written Notices. (5)	Occupiers prosecuted. (6)	M/c. Line No. (7)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	1	1,555	1,952	105	—	1
(ii) Factories not included in (i) in which Section 7 is enforced by Local Authority	2	3,591	6,573	276	—	2
(iii) Other premises in which Section 7 is enforced by the Local Authority(excluding outworkers premises) ...	3	57	200	22	—	3
TOTAL ...		5,203	8,725	403	—	

2. Cases in which DEFECTS were found.

Particulars. (1)	M/c. Line No. (2)	Number of Cases in which Defects were found.				Number of Cases in which Prosecu- tions were instituted. (7)	M/c. Line No. (8)
		Found. (3)	Reme- died. (4)	Refe- red To H.M. Inspector. (5)	By H.M. Inspector. (6)		
Want of cleanliness (S.1)	4	92	89	12	4	—	4
Overcrowding (S.2) ...	5	7	7	2	—	—	5
Unreasonable tempera- ture (S.3)	6	11	11	—	—	—	6
Inadequate ventilation (S.4)	7	7	7	2	—	—	7
Ineffective drainage of floors (S.6)	8	—	—	—	—	—	8
Sanitary Conveniences (S.7)—							
(a) Insufficient ...	9	21	18	—	2	—	9
(b) Unsuitable or defective ...	10	406	395	—	—	—	10
(c) Not separate for sexes	11	5	5	—	7	—	11
Other offences against the Act(not including offences relating to outwork)	12	46	44	46	—	—	12
TOTAL ...	60	595	576	62	13	—	60

Part VIII of the Act.

Outwork.

(Sections 110 and 111)

Nature of Work.	M/c. Line No.	No. of out- workers in August list required by Section 110(1)(c).	No. of cases of default in sending lists to the Council.	No. of prosecu- tions for failure to supply lists.	Section III.		Prosecu- tions.	M/ Lin No
					(6)	(7)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Wearing apparel— Making, etc.	13	306	—	—	—	—	—	13
TOTAL ...	70	306	—	—	—	—	—	70

Outworkers, Sections 110 and 111.

In accordance with the provisions of the Act, outworkers' returns are received twice yearly, and the premises referred to in the returns are visited to ascertain whether work is carried on in any place which is, in the opinion of the local authority, injurious or dangerous to the health of persons employed therein :—

The following statement shows the work undertaken during the year :—

Employers failing to keep list	—
Notices served for failing to keep or send list	—
Prosecutions for failing to send list	—
Number of outworkers' returns referred to M.O.H. of districts outside City	124
Number of outworkers' returns received from other districts	36
Number of visits to premises	262
Number of Notices served	—
Number of outworkers' returns received	422
Number of instances of employment in unwholesome premises	—

Offensive Trades.

There were on the register of offensive trades in the City at the end of the year 75 businesses, which is two more than at the end of the preceding year. During the year, consent to establish the following offensive trades was granted :—

Gut Scrapers	2
--------------	-----	-----	-----	---

Nature of Business.					Trade.
Blood boilers	...	...	...	...	—
Blood driers	...	...	...	...	—
Bone boilers	...	...	...	...	2
Fat extractors	...	...	...	...	10
Fat melters	...	...	...	...	7
Fellmongers	...	...	...	...	5
Glue makers	...	...	...	...	—
Gut scrapers	...	...	...	...	7
Rag and bone dealers	...	...	...	...	30
Size makers	...	...	...	...	—
Soap boilers	...	...	...	...	7
Tallow meltters	...	...	...	...	—
Tripe boilers	...	...	...	...	7
TOTAL	...				75

The number of inspections during the year	...	...	...	...	640
Number of special visits	...	...	...	...	11
,, ,, ordinary visits	...	...	...	...	629
,, ,, applications to establish	...	...	...	...	2
,, ,, applications granted	...	...	...	...	2
,, ,, applications for renewal of consent	...	...	...	...	15
,, ,, offensive trades discontinued and removed from the register	...	...	..	...	—
,, ,, notices issued (informal)	...	...	...	...	20
,, ,, notices issued (statutory)	...	...	...	...	3
,, ,, nuisances found	...	...	...	...	23
,, ,, nuisances abated	...	...	...	...	28

Offices and Workplaces.

In the Annual Report for last year reference was made to the fact that existing legislation has been found to be inadequate in several important respects in order to secure environmental conditions which might be considered satisfactory in offices and workplaces.

Notwithstanding the publication of the report of the Committee of Enquiry under the chairmanship of Sir Ernest Gowers, G.B.E., K.C.B., which considered, among other matters, the statutory provisions relating to health, welfare and safety of employed persons in such places, no legislation has been placed on the statute book during the year which would rectify or strengthen the position.

Special efforts have been made, however, to encourage owners and occupiers of commercial and business buildings to improve the environmental standard in cases where statutory notices could not be issued.

During an examination of office buildings in the main business area of the City, the following information was obtained:—

The above return indicates that ventilation, heating and the standard of lighting was found to be satisfactory in most cases. In the case of overcrowding, which was based on the cubic space figure of 400 cubic feet per person, only 11 offices did not confirm to this standard, but it was frequently observed that the working space on floor area was very congested. This was often due to the fact that generous sections of the rooms had been reserved for reception or enquiry purposes and it would undoubtedly be a benefit to employees if future legislation included a requirement with respect to the minimum floor area available as working space.

Washing facilities in offices do not appear to be regarded with the same importance as in shops and factories; nevertheless, satisfactory provision for this purpose should be regarded as a fundamental health requirement in all places where persons are employed.

Twenty-one offices were found to be lacking in facilities and 459 possessed such accommodation within their offices for their exclusive use. In the majority of cases lavatory basins were located in the sanitary conveniences. It was observed, however, that whereas in commercial buildings of the office type where tenants have joint use of this accommodation, a supply of hot water was laid on to the lavatory basins as a general rule, but this was not the case where separate washing facilities were available.

10,335 visits were made to the 4,396 offices and workplaces on the register during the year. A total of 872 defects were found and an analysis of these is set out overleaf:—

Public Health Act, 1936.

Offices and Workplaces	Defects	
	Reported	Remedied
<i>Sanitary Accommodation—Section 46</i>		
Not provided for males ...	16	18
Insufficient for males ...	4	7
Not provided for females ...	10	15
Insufficient for females ...	2	1
Separate means of approach not provided ...	13	13
Separate not provided for sexes ...	11	11
Reconstruction required ...	16	13
Screens, doors, fasteners, etc., defective or not provided...	181	171
Lighting inadequate ...	8	13
Ventilation—inadequate ...	58	64
—absence of intervening space ...	45	49
Floors, basins, seats, walls, etc., dirty or defective ...	133	130
Flush, defective or inadequate ...	18	18
Urinals—defective, insanitary ...	12	12
—absence of, or insufficient flush ...	4	4
<i>Nuisances—Section 92. Subsection 1(a.b.c.f)</i>		
Nuisances reported ...	155	168
<i>Sub-section 1(e).</i>		
Ventilation insufficient or not maintained ...	38	38
Cleanliness not observed ...	132	122
Rooms overcrowded ...	13	12
Not kept free from noxious effluvia...	3	3
Total ...	772	864

The defects remedied include outstanding defects from the previous year.

Food Hygiene.

During the year there has been no relaxation to consolidate the hygienic improvements of food premises, which have been established during the past years.

The policy pursued by the Department from the commencement of the campaign of a high structural standard has been amply justified. This standard, which was frequently resisted during the initial stages, has now become normal practice and is not only accepted as a necessary minimum by proprietors, but also as a desirable factor on business and hygienic grounds.

It is the aim of the Department to see that the structural conditions and services are such that the basic requirements, e.g., scrupulous cleanliness, effective ventilation, adequate lighting, adequate hot and cold water supplies are satisfactorily maintained. Sufficient evidence is forthcoming to indicate that these matters are now considered sound economical factors. Every advantage is taken of this knowledge in order to press for improvements in this direction whenever the character of a business would find them to be of hygienic value.

Statutory notices and letters of caution are sent to owners and occupiers as the occasion requires, but a great deal has been accomplished by means of persuasion and the co-operation of occupiers.

Steps have also been taken to secure the adoption of sound hygienic practices in conjunction with the improved environmental conditions, and the following matters have received special attention.

UNSATISFACTORY DESIGN OF EQUIPMENT.

The maintenance of cleanly conditions is frequently made difficult owing to the use of equipment, fittings and utensils of unsatisfactory design, such as hollow bases and pedestals to boiler pans and mixing machines in which dirt and insects harbour; shallow spaces under ovens which cannot be cleansed; unnecessary embellishments and internal angles on pie blocking and weighing machines which make scrupulous cleansing virtually impossible.

Equipment and utensils used in the food trades should be of such a character that risk of contamination from this source should be reduced to a minimum and more care and attention might be given to design of equipment of this nature which is likely to give rise to conditions which are inimical to the production and sale of clean food,

and it might well be considered an advantage for manufacturers to consult Public Health Departments from this point of view before placing new equipment on the market.

CATERING ESTABLISHMENTS.

There is a wide variation in the class and character of premises serving food for consumption on the premises in this city, and strict and conscientious supervision is necessary to see that the desired standard of care and cleanliness is constantly observed.

The special attention that has been given by Inspectors to catering establishments has resulted in a noticeable improvement in the structural and hygienic conditions, but as it is only practicable to make intermittent visits to these premises the maintenance of the requisite standard of environmental and personal cleanliness depends to a major degree on persons in charge of the establishments.

It is essential that caterers, managers and supervisors should appreciate their responsibilities in this respect, and no matter whether a catering business is a small snack bar or large restaurant every effort must be made to see that the standard of cleanliness of the equipment and personnel is such, that the risk of contamination of food, eating and drinking utensils is reduced to a minimum.

The extensive reconditioning that has been carried out in catering premises recently has made it possible for Inspectors to direct greater attention to other matters, such as unsatisfactory methods of storing food and equipment, the use of damaged and worn cooking and preparation utensils and the standard of day to day cleanliness.

The arrangement between the Local Food Committee and this Department whereby a licence to establish a new food-preparing business is granted subject to the conditions that the premises are suitable for the purpose and that the applicant complies with the requirements of this Department is proceeding satisfactorily.

The following premises were approved during the year after Inspectors had reported that the desired hygienic and structural standard has been obtained.

Snack Bars	...	...	...	...	...	...	41
Cafés and Restaurants	...	...	...	...	...	...	5
Snacks in Licensed Premises	...	...	...	...	...	...	20
Industrial Canteens	...	...	...	...	...	...	11
Sandwich Services	...	...	...	...	...	...	5
Fish Frying Establishments	...	...	...	...	...	...	8
Baking Rooms	...	...	...	...	...	...	4
Other Premises (including Clubs, Church Halls, etc.)							63
							<hr/>
Total	...	...	...	...	...	...	157
							<hr/>

HYGIENE IN LICENSED PREMISES.

The method of washing drinking utensils, particularly glasses, in licensed premises is still engaging special attention.

Instruction and advice is frequently given to persons engaged in the trade during the systematic visits of Inspectors to these premises, and lectures have been given by a member of the Sanitary Staff to the Licensed Premises Training Course in which emphasis was laid on the hygienic necessity for the thorough washing of beer glasses. It has been observed that the trade itself is taking particular interest in this matter, and this may be due to the results of investigations which are being carried out by an expert sub-committee of the Institute of Brewing into the most satisfactory and hygienic methods of washing drinking glasses in licensed premises.

The installation of automatic glass-washing machines is proceeding steadily, and the use of newer types of disinfectant-detergents is being more generally adopted.

The practice of washing glasses under running hot water, however, is still observed in the majority of public-houses in this city.

SHOPS IN WHICH FOOD IS SOLD.

During the course of routine inspection of shops, shops inspectors apply to all food shops the provisions of Section 13 of the Food and Drugs Acts, 1938, and whilst action is taken to see that matters of structural disrepair secure proper attention, the question of cleanliness of the premises and of persons employed therein, both in regard to themselves and their clothing is equally important, together with other

aspects of personal hygiene. Apart from the specific requirements of Section 13, which the inspectors seek to promote by appropriate action, the unspecified matters which may give rise to risk of contamination are happenings which can only be dealt with when observed.

Shopkeepers have readily co-operated by giving effect to recommendations to protect food displayed in shop windows and on shop counters near which customers congregate, and this evidence of a desire on the part of shopkeepers to provide clean food is appreciated by customers. In practice it is usual to recommend that food should be protected from the risk of contamination by customers, who may touch, or cough or sneeze upon it, by glass screens or other suitable means, although it is recognised that proof that a risk is present may depend not only on the opinion of an inspector, but on technical evidence which he may not be qualified to give.

The position in small general shops with food and non-food goods stocked in a small space, is not as satisfactory as in the larger shops, although many of the small shopkeepers try to maintain a reasonable standard in these matters. It is expected that the operation of the proposed bye-laws will materially assist in promoting a higher standard generally and particularly in some small shops where the occupier, and the customers, are inclined to be careless.

As a result of the strict attention given by inspectors to the need for cleanliness in all the rooms in food shops, a distinct improvement has been made in the conditions of rooms behind and above shops in which food is stored and prepared which the public do not see and which in past years, except in shops where it has always been the practice to maintain thorough cleanliness throughout the premises, have been neglected.

Apart from occasions when it was appropriate to make verbal requests for some improvement in food shops, it has been the practice to notify shopkeepers in writing regarding failure to comply with the requirements of Section 13 of the Food and Drugs Act, 1938, and in most cases such intimation has been effective, but in the case of three shops where letters did not have the desired effect, it was necessary during the year to institute proceedings to enforce the Act. The Court imposed a penalty when the defendants were convicted, and in the case of one

shopkeeper, whose premises had been in a very dirty condition, he was convicted at a later date for obstructing the inspector when he re-visited the shop to examine the premises.

EDUCATION OF THE FOOD HANDLERS.

The success of any scheme or campaign launched with the object of raising the standard of hygienic practices in relation to food is dependent to a major degree upon the acts and habits of the persons who handle the food.

The source of many outbreaks of food poisoning has been traced to individuals who have contaminated food with infective material, and it is therefore essential that conscientious attention must be given by all food handlers to personal cleanliness at all times.

Enquiry has shown that many persons connected with the food trades are ignorant of the relationship between personal cleanliness and food poisoning, and in view of this lack of knowledge it is important that food handlers should be informed as to the absolute necessity for compliance with the rules of personal hygiene and the unfortunate consequences that might occur if these are not observed.

Although the education of food handlers in matters of hygiene is not primarily a matter for the Inspector, his knowledge and experience enables him to appreciate the likelihood of risk of contamination of food arising, either from the practices of workers or the presence of customers in premises where food is prepared, stored and exposed for sale. In view of this, and having regard to the provisions in the Food and Drugs Act, 1938, Section 13, Sub-Section 2 (b), in the matter of any person failing to ". . . take all such steps as may be reasonably necessary to prevent risk of contamination of food in the room,"

Inspectors have a responsibility to take such action as may be considered reasonable to ensure that risk of contamination is eliminated as far as possible. For this reason it is considered that inspectors can offer advice to food handlers without exceeding their duty, and every opportunity has been taken, particularly during routine visits to premises occupied by food traders, for directing the attention of those concerned to the importance of cleanly practices in connection with businesses of this nature.

Members of the staff have given papers, lectures and talks on food hygiene to conferences and meetings of women's organisations, canteen and catering associations, luncheon clubs and professional and nursing associations, and the executives of many firms have been approached and given advice with regard to the arranging of lectures and demonstrations on this subject.

PROPOSED BYELAWS.

Under Section 15 of the Food and Drugs Act, 1938, powers are granted to Local Authorities to make byelaws for securing the observance of sanitary and cleanly conditions and practices in connection with the handling, wrapping and delivery of food.

In accordance with these powers, draft byelaws have been prepared and submitted to the Minister.

The provisions of the draft byelaws are in the main based on the Model Byelaws Series 1 issued by the Ministry of Food, but certain amendments and strengthening clauses have been included in view of the special circumstances and conditions that arise in a large city in connection with food trades.

A number of trade and women's organisations offered suggestions with regard to amending or inserting particular provisions in the proposed byelaws and each was given careful consideration.

Catering Establishments.

During the year, 4,339 visits were made to 496 catering establishments and the details of the Inspections are set down hereunder:—

Number of occasions in which restaurants and cafés were found incorrect	395
Notices issued—Public Health Act, 1936—	
to occupier	12
to owners	70
Notices issued—Food and Drugs Act, 1938—	
to occupier	180
to owner	44

Restaurants and Cafes.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938, Section 13.</i>		
(a) Sanitary conveniences, dustbin, etc., within or communicating direct	7	10
(b) Drain inlet within or communicating direct	5	7
(c) Dining rooms	79	103
(Walls, ceilings, floors, etc., in disrepair).		
Kitchen	153	168
(Walls, ceilings, floors, etc., in disrepair).		
Food store	54	59
(Walls, ceilings, floors, etc., in disrepair.)		
(d) Dining rooms	161	177
(Walls, ceilings, windows, etc., require cleansing.)		
Kitchen	188	208
(Walls, ceilings, windows, etc., require cleansing.)		
Food store	28	34
(Walls, ceilings, windows, etc., require cleansing.)		
(e) Room used as a sleeping apartment or communicating direct...	—	—
(f) Dining room	19	23
(Ventilation not provided and maintained.)		
Kitchen	23	26
(Ventilation not provided and maintained.)		
Food store	8	13
(Ventilation not provided and maintained.)		
(g) Accumulation of refuse or filth within the rooms	6	6
Floors not kept in a clean condition	5	5
(h) Cleanliness of persons employed in rooms not observed ...	16	16
Cleanliness of articles, utensils and apparatus not observed ...	7	7
(i) Suitable and sufficient washing facilities not provided...	48	45
Supply of soap and towels insufficient or not provided...	13	13
Supply of hot and cold water insufficient or not provided	49	50
<i>Sub-Section 2 (b).</i>		
Cutlery, crockery and other accessories, cleanliness not observed...	12	12
Equipment defective, worn, requiring repair or renewal ...	54	62
Swill bin accommodation unsatisfactory	16	17
Storage of food ; inadequate, unsatisfactory accommodation ...	13	24
Handling of food ; unsatisfactory methods used ...	14	14
Washing of hands after use of sanitary convenience. Notice not posted	16	16
Other matters causing risk of contamination of food ...	88	86
<i>Public Health Act, 1936, Section 89.</i>		
(Sanitary accommodation.)		
Not provided for males	6	10
Insufficient for males	—	2
Not provided for females	5	6
Insufficient for females	—	1
Reconstruction of sanitary convenience required...	2	2
Separate means of approach not provided	—	—
Screens, doors, fasteners, etc., defective or not provided ...	9	12
Lighting inadequate	1	3
Ventilation—		
Inadequate	1	4
Absence of intervening space	5	8
Floors, basins, seats, walls, etc., dirty or defective...	38	36
Flush to water closets defective or inadequate ...	3	4
Urinals—		
Defective, insanitary	2	2
Absence of or insufficient flush thereto	2	3
TOTAL	... 1,156	1,294

Licensed Premises.

3,790 visits were made to licensed premises during the year, and appropriate notices were issued in cases where the undermentioned defects were observed:—

Licensed Premises.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938. Section 13 (1).</i>		
(a) Sanitary conveniences, dustbin, etc., within or communicating direct	11	17
(b) Drain inlet within or communicating direct	—	10
(c) Bars and Parlours	89	89
(Walls, ceilings, floors, etc., in disrepair.)		
Beer cellars...	59	46
(Walls, ceilings, floors, etc., in disrepair.)		
(d) Bars and parlours	166	127
(Walls, ceilings, windows, etc., require cleansing.)		
Beer cellars...	188	187
(Walls, ceilings, windows, etc., require cleansing.)		
(e) Room used as a sleeping apartment or communicating direct...	—	—
(f) Bars and parlours	1	2
(Ventilation not provided and maintained.)		
Beer cellars...	—	1
(Ventilation not provided and maintained.)		
(g) Accumulation of refuse or filth within the rooms	6	6
Floors not kept in a clean condition	—	—
(h) Cleanliness of persons employed in rooms not observed ...	—	—
(i) Cleanliness of articles, utensils and apparatus not observed ...	7	7
(i) Suitable and sufficient washing facilities not provided ...	1	—
Supply of soap and towels insufficient or not provided...	—	—
Supply of hot and cold water insufficient or not provided	26	20
<i>Sub-Section 2 (b).</i>		
Failure to prevent risk of contamination of food	19	17
Beer pipes	—	—
(Defective, worn, or cleanliness not maintained.)		
Stillage	2	2
(Defective, worn, or cleanliness not maintained.)		
Beer engine	3	1
(Defective, worn, or cleanliness not maintained.)		
Drip trays	1	1
(Defective, worn, or cleanliness not maintained.)		
Drainers, trays, sinks	4	4
(Defective, worn, or cleanliness not maintained.)		
Waste beer vessels uncovered or in an unsatisfactory condition ...	2	10
Filters and funnels in an unsatisfactory condition...	—	—
Glasses—		
Not served in a clean condition	1	1
Unsatisfactory method of cleansing	4	4
Other matters causing risk of contamination of food ...	28	26

Licensed Premises (continued).	Defects.	
	Reported.	Remedied.
<i>Public Health Act, 1936, Section 89. (Sanitary Accommodation.)</i>		
Not provided for males	6	5
Insufficient for males	10	9
Not provided for females	43	71
Insufficient for females	5	4
Reconstruction required	3	3
Separate means of approach not provided	3	7
Screens, doors, fasteners, etc., defective or not provided	34	33
Lighting inadequate	3	4
Ventilation—		
Inadequate	13	22
Absence of intervening space	35	41
Floors, basins, seats, walls, etc., dirty or defective	107	86
Flush to water closets defective or inadequate	9	9
Urinals—		
Defective, insanitary	36	32
Absence of or insufficient flush thereto	23	29
TOTAL	948	933

Fish Frying Establishments.

There are 415 fish friers operating in the city, and 2,784 visits were made during the year.

Fish Friers.	Defects.	
	Reported.	Remedied.
<i>Food and Drugs Act, 1938. Section 13 (1).</i>		
(a) Sanitary convenience, dustbin, etc., within or communicating direct	9	12
(b) Drain inlet within or communicating direct	8	8
(c) Preparation room (Walls, ceilings, floors, windows, etc., in disrepair.) Shop	89	77
(d) Preparation room (Walls, ceilings, windows, etc., require cleansing.) Shop	175	183
(e) Room used as a sleeping apartment or communicating direct... Shop	3	3
(f) Preparation room (Ventilation not provided and maintained.) Shop	10	10
(g) Accumulation of filth or refuse within the rooms Floors not kept in a clean condition	5	5
(h) Cleanliness of persons employed in rooms not observed Cleanliness of articles, utensils and apparatus not observed ... Cleanliness of persons with regard to clothing ...	2	2
(i) Suitable and sufficient washing facilities not provided... Supply of hot and cold water insufficient or not provided ... Supply of soap and towels insufficient or not provided...	15	16
Failure to prevent risk of contamination of food	45	50
Food refuse accommodation unsatisfactory... ...	17	14
Storage of food, unsatisfactory accommodation	15	22
Handling of food, unsatisfactory methods used	3	3
Equipment unsatisfactory, requiring repair or renewal ...	44	52
<i>Public Health Act, 1936.</i>		
Nuisances reported	46	59
...		
TOTAL ...	773	809

Bakehouses.

The number of bakehouses in operation is 325, of which 9 are basement bakehouses.

During the year, 1,821 visits were made to bakehouses and 117 notices issued under the Food and Drugs Act, 1938, Section 13, details of which are as follows:—

Food and Drugs Act, 1938, Section 13.

Bakehouses.	Defects.	
	Reported.	Remedied.
(a) Sanitary conveniences, dustbins, etc., within or communicating direct	4	4
(b) Drain inlet within the room	—	—
(c) Preparation rooms	117	129
(Walls, ceilings, floors, windows and doors in disrepair).		
Store rooms	21	22
(Walls, ceilings, floors, windows and doors in disrepair).		
(d) Preparation rooms	129	142
(Walls, ceilings, doors, windows require cleansing).		
Store rooms	28	36
(Walls, ceilings, doors, windows require cleansing).		
(e) Room used as sleeping apartment, etc.	1	1
(f) Preparation rooms	8	9
(Ventilation inadequate or not maintained).		
Store rooms	5	5
(Ventilation inadequate or not maintained.)		
(g) Accumulation of filth or refuse in the room	5	5
Floor not kept in a clean condition	6	6
(h) Cleanliness of persons employed in rooms not observed ...	3	3
Cleanliness with regard to clothing not observed ...	1	1
Cleanliness of articles, utensils and apparatus not observed ...	15	19
(i) Supply of soap and towels insufficient or not provided... ...	1	1
Suitable washing basins not provided	39	39
Supply of hot and cold water insufficient or not provided ...	15	16
<i>Sub-Section 2.</i>		
(b) Failure to prevent risk of contamination of food	37	50
TOTAL ...	435	488

Included in above table are defects remedied which were outstanding at the end of 1949.

Basement Bakehouses.

As indicated in the Annual Report for the year 1949, the occupiers of all Basement Bakehouses in the City were notified that the certificate of suitability would cease to have effect after the 6th January, 1951, and in consequence, no Basement Bakehouse must be used for this purpose after this date.

Of the 32 Basement Bakehouses which were given notice, nine remained in operation at the end of the year (1950).

Bread Vans.

The inspection of vehicles in which bread is conveyed, with regard to cleanliness, has been maintained during the year.

The supply of new vehicles is still insufficient to meet the demand, and bread distributors and bakers have been compelled to repair and renovate aged existing vans as far as possible in order to provide interior surfaces which can be kept in a clean and hygienic condition.

Although there is a marked improvement in the design of new vehicles from a hygienic point of view, it is to be hoped that manufacturers of this type of vehicle will consider means of preventing the exposure of the interior to the dust and dirt of the highway which is often blown into the interior during the period that bread and confectionery is being delivered into the shops or dwelling-houses.

Number of bread vans inspected	...	...	...	903
„ „ „ „ found dirty	...	...	...	5
„ „ „ dirty vans re-inspected and found clean				5

Furniture Removers.

108 visits were made to the premises of furniture removers, and 126 vans were inspected. All were found to be in a clean condition.

Employment Agencies.

These premises are controlled by byelaws made under the Liverpool Corporation Act, 1927, and visits were made from time to time to ascertain that the requirements of the byelaws are being carried out. There are at present 28 licensed employment agencies on the register.

Rag and Flock Acts, 1911 and 1928.

There is one factory in which rag flock is manufactured in this city. Three visits have been made and four samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations.

32 visits have been made to premises where rag flock was used; 35 samples were taken.

The reports of the City Analyst on the 35 samples of rag flock submitted for analysis used in upholstery and bedding were as follows:—

- 1 contained under 5 parts of chlorine per 100,000 parts of flock.
- 7 contained 5 and under 10 parts of chlorine per 100,000 parts of flock.

17 contained 10 and under 15 parts of chlorine per 100,000 parts of flock.

3 contained 15 and under 20 parts of chlorine per 100,000 parts of flock.

2 contained 20 and under 24 parts of chlorine per 100,000 parts of flock.

5 contained 25 and under 30 parts of chlorine per 1000,000 parts of flock.

Administration of the Shops Act, 1950, and the Young Persons (Employment) Act, 1938, Part I.

Consolidation of the Shops Acts, 1912 to 1938.

Following the First Interim Report (Cmnd. 7105) and the Final Report (Cmnd. 7664), of the Committee of Enquiry into the provisions of the Shops Acts as to the Closing Hours of Shops; Health, Welfare and Safety of employed persons at places of employment other than those regulated under the Factories or Mines and Quarries Act; and the statutory regulation of the Hours of Employment of Young Persons, presented to Parliament in April, 1947, and March, 1949, respectively, the various Shops Acts, 1912 to 1938, were consolidated and their provisions re-enacted in the Shops Act, 1950.

This Act came into operation on the 1st October, 1950, but beyond the necessary re-arrangement into convenient form of the provisions of the Acts of 1912 to 1938, which the present Act repealed, the Act does not contain the many recommendations made by the Gower's Committee of Enquiry for extending, strengthening or modifying the law in accordance with its terms of reference.

There is little doubt, however, that in due course Parliament will give effect to such recommendations as may be considered necessary to remedy the shortcomings and anomalies in the present law which have become apparent in practice, and which in some respects, the Courts have criticized in strong terms. Judgments in the Courts, in some cases relating to closing hours of shops, have given to expressions used in the statute a meaning far wider than it was generally thought that Parliament intended, with the result that in practice, uncertainty arises as to the limitations of provisions as to closing hours on the one hand and exemptions therefrom on the other.

Among the recommendations of the Gower's Committee of Enquiry was one, in paragraph 293 of the Final Report, concerning enforcement, in which the Committee considered that, except in the Administrative County of London, sanitary authorities should be responsible for the administration of all parts of the Shops Act as well as for the new legislation they proposed.

At present the Act requires every local authority to be responsible for enforcement of its provisions, except for those provisions relating to ventilation and temperature of shops and to sanitary conveniences, which are included in the duties laid by the Act upon the sanitary authority for every district as part of their duties under the Public Health Acts. Commenting on this matter, in paragraph 285 of the Final Report, the Committee states, "Thus there are Shops Acts authorities that are not sanitary authorities and vice-versa, and the position is further complicated in that sanitary authorities are charged with the enforcement of those provisions of the Shops Acts that are concerned with ventilation, temperature and sanitary conveniences. It is not uncommon, therefore, for the washing facilities in a shop to be inspected by the officers of one authority and the sanitary accommodation by those of another, an absurdity which the Shops Act, 1934, attempts rather feebly to palliate by requiring Shops Acts inspectors to take note of and, if necessary, report to the sanitary authority for the district any contraventions of the health provisions for which that authority is responsible."

After referring, in paragraph 286, to the fact that both sanitary and Shops Acts authorities are required to appoint inspectors to enforce the law, the Committee point out that sanitary inspectors must be certified by a body approved by the Minister of Health as persons who have shown themselves to be capable of the office, whereas this does not apply in the case of inspectors appointed by Shops Acts Authorities; and the Report goes on to say, ". . . In point of fact in the areas of some of the smaller authorities the duties of the Shops Acts inspectors are carried out by police officers, sanitary inspectors, inspectors of weights and measures, beadle, and even car-park and beach attendants . . . It is scarcely surprising, therefore, that the standards of administration vary considerably."

In this City, as in some other areas, sanitary inspectors employed whole time perform all the duties laid on the Local Authority under the provisions of the Shops Act, and this arrangement has resulted in satisfactory administration.

Although previous Shops Acts were repealed by the Shops Act, 1950, Section 76 of this Act provides that, "nothing in this repeal shall affect any instrument made or other thing whatsoever done under any enactment repealed by this Act . . . any every such instrument or other thing shall continue in force and . . . shall have effect as if made or done under the corresponding provision of this Act." This provision, therefore, maintains in force the various Regulations made by the Secretary of State and the Orders made by local authorities, as to the manner in which certain provisions of the Act are to be carried out.

APPLICATION OF THE SHOPS ACT, IN PRACTICE.

Although it has been the practice for many years in this City, to administer the provisions of the Shops Acts, together with Regulations and Orders made thereunder, so as to give full effect to such legislation, inspectors so employed are encouraged in the view that, in addition to their specific duties in securing proper enforcement of this legislation, they are at the same time able to advise shopkeepers, within limits, as to their problems in carrying out the law, and in so doing assist in promoting good citizenship which the local authority seeks to foster.

In carrying out this practice, Inspectors are careful to avoid giving the impression that shopkeepers are thus relieved of their own responsibility to take all the necessary steps to comply with the Act and any Regulations or Orders affecting their business, and should any such tendency arise the correct procedure is clearly explained to an occupier. It is known that any assistance given to shopkeepers in this way is not only generally appreciated, but that administration is made more effective thereby, with the result that offences due to ignorance are comparatively few in number. Changes in the occupation of shops occur from time to time, either from cessation of business, or change in the nature of trade carried on, or by persons engaging in business for the first time. Inspectors look out for such changes and make a

visit to see that the requirements of the law are understood and put into effect.

It is satisfactory to note that complaints concerning failure to comply with the Shops Acts and the Young Persons (Employment) Act, 1938, have been few in number and that requests from shopkeepers and other employers for advice concerning the application of these measures are very frequent. In the case of departmental stores, and firms having a number of branches, it is known that strict compliance with these Acts is considered by them as being essential to the good organisation of their business, with the result that it is seldom necessary to approach them with regard to an infringement; this desire to give proper effect to legislation is also reflected in the way in which the great majority of shopkeepers and employers in the City carry out their obligations in this respect and such co-operation is appreciated and cordially acknowledged. In this connection it is also pleasing to record that useful contact is maintained between this department and various associations representing trades and businesses, which provide for their members an information service of considerable value in its ultimate effect on the work of administration. The municipal information office of the Town Clerk's Department has also taken an active part in giving advice to shopkeepers and employees on their problems, and inter-departmental enquiries have been dealt with from time to time,

A permanent record is kept in the department of the matters affected by statute with respect to all shops in the City indicating, in concise form, the way in which the requirements of the Shops Act are complied with. For this purpose a card register is kept for each shop, affording quick reference to the history of its occupation and the matters for which the law provides, and the details entered in the record show the nature of contraventions found to occur, together with steps taken to deal with the offences.

Owing to changes which occur in the occupation of shops, or in the numbers or composition of staff employed, or nature of trade or business carried on, it is necessary that the record should be brought up to date by periodical routine visitation, or such other visits as may be desirable, to ensure that the law is carried out in a satisfactory manner.

In accordance with the allocation of duties in the department, shops inspectors also apply to the premises they visit the appropriate provisions of the Public Health Act, 1936, and Section 13 of the Food and Drugs Act, 1938, and take such action as may be necessary under the Prevention of Damage by Pests Act, 1949, to render premises proof against rats and mice.

Shops inspectors also visit, as part of their duties in the department, places of entertainment, including theatres, cinemas and skating rinks, together with clubs, meeting halls, racing tracks and sports grounds, and apply the appropriate provisions of all the above enactments to such premises.

ROUTINE INSPECTION.

It is by means of systematic routine visitation of shops and other premises that exact information may be obtained as to way in which the law is observed in particular cases and to provide a general view of the conditions affecting the industry under the various Acts, by which the effectiveness of administration may be reasonably measured. Special visits are necessary from time to time to investigate matters arising from complaints, of which there are comparatively few, or to deal with circumstances where the advice of the inspectors is sought.

It is on the occasion of routine visits that the most valuable work of the shops inspectors is carried out, when he makes contact with the occupier of the premises or his manager or other representative, and deals in particular with all the details of the provisions of the Acts as they apply to individual businesses. These provisions relate broadly to closing hours of shops, employment of shop assistants and young persons, arrangements for maintaining the health and comfort of shop workers, and, in relation to businesses to which the Young Persons (Employment) Act, 1938, applies, to the employment of young persons in various occupations not regulated by the Shops Act or the Factories Acts.

Such matters as may require the attention of the occupier or the owner of the premises regarding failure to comply effectually with statutes or regulations, are promptly brought to their notice so that the necessary steps may be taken without delay to secure compliance with the appropriate statute in a satisfactory manner.

For the purposes of the Shops Act, 1950, the expression "shop" includes any premises where any retail trade or business is carried on, and any wholesale shop, and any warehouse occupied for the purposes of his trade or business or by any wholesale dealer or merchant. The provisions of the Act relating to closing hours, and the weekly half-holiday and intervals for meals for shop assistants relate only to retail shops, but the provisions dealing with employment of young persons and arrangements for health and comfort of shop workers apply to all retail and wholesale shops and to retailers' and wholesalers' warehouses. It is also provided that young persons employed about the business of any of these shops are to be considered shop assistants for the purposes of a weekly half-holiday, and intervals for meals.

Premises other than shops in which retail trade or business is carried on or about the business of which young persons are employed also come within the provisions of the Act.

In addition to the ordinary type of shop premises, and the large number of small general shops, some of which are occupied as house and shop, inspectors carrying out routine visitation look out for businesses set up in private houses which do not bear prominent indication of such occupation, so that any requirements of the Act may be carried out. In this connection it is of interest to note, for example, that the office of a retail coal merchant or of a credit draper, where trade is done by order whether received through the post, by telephone, through travellers or otherwise, is a shop, although no goods are kept for sale therein.

In the case of employments regulated under the Young Persons (Employment) Act, 1938, visits are made to various premises, other than shops and factories, at the same time that routine visits are made to shops in the same district, and such employments include young persons engaged in the collection or delivery of goods and any carrying, loading or unloading incidental thereto; employed wholly or mainly outside any premises, carrying messages or running errands in connection with the business carried on at the premises; employed carrying messages or running errands or in connection with the reception of guests or members at a residential hotel or club, or in the reception of or attendance upon persons resorting to a place of public entertainment

or amusement, or at a public swimming bath, bathing place or turkish bath ; employed elsewhere than in a private dwelling-house, in the operation of a hoist or lift connected with mechanical power ; employed in, or in connection with, the operation of cinematograph apparatus.

The position as to street traders carrying on retail business from vehicles or by other means is still unsatisfactory. Although the Shops Act provides that it would be unlawful to carry on in any place not being a shop retail trade or business of any class at any time when it would be unlawful in any locality to keep a shop open for retail trade of the same class, judgment was given in the High Court in the case of Eldorado Ice Cream Company, Ltd., v. Keating (1938), under the Shops (Sunday Trading Restriction) Act, 1936, to the effect that neither the vehicle (a box tricycle) from which retail trade was being carried on in the street, nor the particular place where it happened to be standing, was a "place" to which the Act could be applied, and that to be a "place" within the meaning of the Act, it must either be a shop or premises akin to a shop.

This judgment rendered the Shops Act ineffective with the result that traders in the street were not obliged to observe the closing hours on the weekly half-holiday, in the evening and on Sunday as applied to shops, and considerable irritation was caused to shopkeepers thereby.

In the Scottish case of Nixon v. Capaldi (1949), which related to retail trade carried on from a motor van in the street after the closing hour for shops, the High Court of Judiciary held that an offence had been committed, and the Lord Justice Clerk in his judgment is reported as saying, "I think that we must give a meaning to the word 'place' wider than the formula employed by the Lord Chief Justice (in the Eldorado v. Keating case) of 'premises akin to a shop'."

Although the judgment in the Scottish case is not binding on an English Court, in one or two cases in this country Magistrates' Courts have taken this judgment into consideration and convicted the defendants, but in the absence of a further judgment of the Divisional Court in England, varying that given in the Eldorado case, the Act does not affect retail trade carried on from vehicles or other contrivances, not having fixed location, in the street.

In their First Interim Report, dated April, 1947, the Gowers Committee recommended that, in this respect, ". . . the law should be amended to give effect to its intention" (paragraph 83).

ARRANGEMENTS FOR THE HEALTH AND COMFORT OF SHOP WORKERS.

These matters are included in the provisions of the Shops Act, 1950, concerning ventilation, temperature, lighting, sanitary conveniences, washing facilities and facilities for the taking of meals, to all of which strict attention has been given, with the result that a satisfactory standard is maintained in shops throughout the City, having regard to the circumstances and conditions affecting the shops. In some of the older buildings and small lock-up shops it has not been possible to arrange for sanitary accommodation to be located as conveniently for the assistants as it is in most shops, but in the case of all shops it is insisted upon that every shop worker shall have access to suitable and sufficient sanitary accommodation, as of right, during the whole period of their employment.

The contraventions found to exist related chiefly to sanitary conveniences and washing facilities, and apart from the need for repairs to existing facilities, it has been necessary to take action to provide suitable arrangements in shops where assistants were not previously employed, or to require such additional facilities as become necessary by changes in, or additions to, the staffs employed.

Owners and occupiers of premises have complied in a satisfactory manner with the requirements of the various provisions, when their attention has been drawn to needed improvements either by verbal request or by statutory notice, and in no case has it been necessary to take proceedings to enforce compliance with a notice during the year.

In the case of very small lock-up shops, frequently referred to as Kiosks, at which customers in the street are served through a serving hatch, the persons employed are, in many cases, at a disadvantage as regards convenient access to sanitary accommodation and washing facilities, compared with assistants employed at other shops. In some instances it has been found that the assistant employed in such lock-up shops, located in isolated positions, although said to be able to close the shop when necessary, must travel a considerable distance to another

building where sanitary accommodation is available. Although the Shops Act, 1934, contained a provision enabling a local authority to grant a certificate exempting such shops from the provision on the premises of sanitary conveniences or washing facilities, if such facilities were conveniently available elsewhere—this power being continued in the Shops Act, 1950—it has been considered in practice in this City, that the power to exempt should be exercised very carefully, and only in respect to existing shops. In no case has approval been given by this department to schemes where it was proposed to erect shops without providing sanitary accommodation and washing facilities on the premises, and in this connection it is noted that the Gowers Committee in their Final Report, Cmd. 7664, paragraph 70, referring to sanitary accommodation in shops and offices, stated: “All premises to be subject to legislation on the lines of Section 7(1) of the Factories Act and of the Sanitary Accommodation Regulations, 1938, but the enforcement authority to have power to grant exemptions which should be re-considered at intervals of not more than five years with a view to their ultimate extinction. No new shop or office property to be erected which does not comply with these standards.” (Paragraph 22.)

EMPLOYMENT OF SHOP ASSISTANTS AND YOUNG PERSONS.

Although hours and conditions of employment of shop assistants and young persons are to some extent affected by the closing hours under the Shops Act, as well as by various trade agreements, shops inspectors exercise care to see that proper effect is given to the specific requirements of the Shops Act and the Young Persons (Employment) Act, 1938, relating to conditions of employment, including holidays and intervals for meals for shop assistants and young persons, and hours of employment of young persons. Strict attention is paid to the keeping of records as to hours of employment and the exhibition of notices prescribed by shops regulations and the information given therein is carefully checked and verified by conversation with the employer and the persons employed, as well as by independent visits and observations by inspectors to ascertain if the recorded details are in accordance with actual employment.

Any failure to comply with the statute or regulations is noted and brought to the attention of the employer or his representative at the time and reported for consideration as to any further action in the

matter, and any information which may be desired or found necessary is given to the employer or other responsible person, so that they may understand and give effect to the requirements of the law.

On the whole, compliance with regard to employment provisions is very satisfactory, and offences relating to failure to allow the holidays and intervals for meals, or the employment of young persons in excess of permitted hours are seldom reported. In most employments the working hours have been found to be below the normal maximum weekly hours of 44 hours in the under 16 years age group and 48 hours in the 16 to 18 years age group ; and although a limited amount of overtime may be worked by young persons of 16 and over on the occasion of seasonal or exceptional pressure of work, this provision is seldom used.

Very few complaints were received during the year concerning the conditions and hours of employment, and the offences reported during routine inspection related chiefly to failure to keep records of employment and to exhibit prescribed notices, being due in most cases to carelessness or ignorance. It is customary to send a warning letter to the occupier in such cases, and when the inspector revisits the premises within a few days, it is usual to find that infringements have been corrected promptly and these are seldom repeated.

VISITATION ON THE WEEKLY HALF-HOLIDAY, IN THE EVENING AND ON SUNDAY.

In order to ensure that the provisions of the Shops Act relating to closing hours are properly observed by shopkeepers, visits are made regularly throughout the City each week, on the occasion of the weekly half-holiday and in the evening, and inspections are also made on Sunday. The Act requires that all shops, with the exception of those in which an exempted trade or business is carried on, shall be closed for the serving of customers at 1 p.m. on one week-day in each week, and enables a local authority, by order, to fix the day on which shops of any class shall be closed for this purpose. Orders have been made fixing Wednesday as the closing day throughout the City for all trades not included in the list of general exemptions in the First Schedule to the Act—except in the Central Area where Saturday is the day fixed for some trades or businesses—and the orders for those areas respec-

tively permit Saturday, or Wednesday, to be chosen as the alternative closing day. Orders, confirmed by the Secretary of State in accordance with the Act, have also been made for certain trades exempted by the First Schedule, bringing them within the closing provisions for the half-holiday.

Other Orders, referred to in the Act as Closing Orders, are in operation fixing the closing hour at 7 p.m. on some days of the week for certain trades or businesses, but otherwise the general evening closing hour is 9 p.m. on the "late" day, Saturday, and 8 p.m. on the other days of the week.

It may be mentioned here that in dealing with the question of closing hours of shops, the Gowers Committee, in their First Interim Report, Cmd. 7105, did not propose any change varying the closing hour of 1 p.m. on the weekly half-holiday, but, with regard to evening closing, it was recommended that the general closing hour should be 8 p.m. on the "late" day, Saturday, and 7 p.m. on the other days of the week. Whilst accepting as settled policy the principles of compulsory evening closing and compulsory half-day closing once a week, the Committee pointed out that in the past compulsory closing has been of the greatest benefit in protecting the shop assistant from exploitation but, having considered the arguments used to support proposals that the general closing hours should be 7 p.m. on the "late" day and 6 p.m. on the other days of the week, they were not convinced that legislation as to closing hours should, in itself, be the instrument for the purpose of securing further advantages as to hours of employment for shop assistants.

The Committee said it was not for them to pass any opinion on the question whether the hours of shop assistants are a proper subject for legislation but, in recommending the general closing hours of 7 p.m. and 6 p.m., considered that it is now the public's turn for consideration.

With a view to legislation being more closely related to present-day needs, it is of interest to note that other recommendations of the Committee affecting closing hours included, retention of the power for local authorities to fix closing times not more than an hour earlier for all or any classes of shops in their area; repeal of provisions providing later hours for sweets and tobacco; amendment of the law to

give certainty to the meaning of the expression "refreshments" and "newly cooked provisions" for the purpose of exemption from closing hours; deletion of reference to specified foods, and perishability, in the list of exemptions from half-holiday closing; amendment of the law to give effect to its intention in respect to trading elsewhere than in a shop; amendment of provisions relating to Sunday trading which have disclosed shortcomings in practical working.

At the same time that visits are being made in connection with closing hours of shops, inspectors carry out observations to note whether shop assistants and young persons are employed in accordance with the law and with the arrangements specified in the records and notices previously examined in the various shops, and particular attention is paid to any shops where the inspector has reason to believe that persons are not employed strictly in accordance with legal requirements, including a weekly half-holiday from 1.30 p.m. and the additional compensatory holidays to which persons who are employed on Sunday are entitled.

The shops found to be open for business on the weekly half-holiday are those known as "mixed shops," in which certain transactions may be carried on after 1 p.m. in accordance with the schedule of exemptions. In the main, these comprise small general shops; newsagents, tobacconists and sweets shops; and places of refreshment, in all of which the prescribed form of notice as to permitted sales must be exhibited at and after 1 p.m. if non-exempted goods are also sold in the shop.

As the great majority of the larger shops close entirely at 1 p.m., and the assistants cease work at or before 1.30 p.m. it is very unusual to find cause for complaint among those shops, but offences relating to failure to close at 1 p.m. or to exhibit the notice in mixed shops do arise occasionally.

Inspectors in the evening are mainly concerned with general closing hours and, apart from places of refreshment, very few assistants are employed in the evening. As a rule, shops are closed much earlier than the general closing hours fixed by the Shops Act, and by Closing Orders, and this applies also during the winter period when the closing hour

under Defence Regulation 60AB and the Liverpool (Hours of Closing) Order, 1941, is 6 p.m.

Under Section 7 of the Shops Act, 1950, the provisions relating to the earlier closing hours during the winter months, which have been in operation each year since 1939, were to expire on the 10th December, 1950, but by an Order in Council these provisions were continued in force for another year so as to expire on the 10th December, 1951.

In keeping with the provisions of the Shops Act affecting Sunday trading, it is usual to find many small general shops, and other mixed shops, open on Sunday for the carrying on of business in transactions exempted from the closing provisions. Except in a few instances, these shops close shortly after mid-day, and other than a few tobacconists and sweets shops, business during the afternoon and evenings on Sundays, is chiefly confined to soft drinks bars, snack bars and other places of refreshment.

There is a tendency for unlawful trading to be carried on in the small general and other mixed shops on Sundays, including failure to exhibit the prescribed notice as to transactions for which the shop may be kept open, but the steps taken to deal with such matters are sufficient to keep them in check, although for obvious reasons it is difficult to eliminate all offences, particularly in some cases where there is reason to believe that customers assist shopkeepers in preventing the necessary evidence to prove an offence being obtained.

During the course of regular visits to shops on Sundays, inspectors examine the record giving the hours of employment, and the compensatory holidays to be allowed for such employment, in respect to all persons who are employed about the business of a shop which is open for the serving of customers on Sunday. This requirement not only applies to assistants who are employed by the shopkeeper during the week, but to any person who is employed in the shop on Sunday although employed elsewhere on other days. Further visits are made on weekdays to ensure that persons employed on Sunday receive the compensatory holidays to which they become entitled, and these visits also provide the opportunity to see that the hours of employment of young persons engaged on Sunday do not exceed the permitted maximum.

The provisions of the Act relating to employment on Sunday are well observed in the majority of shops and the offences found are mostly of a technical character, including failure to enter in the record the particulars of employment or the day on which the holiday is given; offences concerning failure to allow the prescribed holidays, or employing persons who have been employed for more than four hours on any Sunday in the month, for more than two other Sundays in the same month, are very infrequent.

ENFORCEMENT.

Inspectors submit a report on all inspections made by them and, where any contravention or failure to comply with the various provisions of the Shops Act, 1950, or the Young Persons (Employment) Act, 1938, is noted, whether the visit is made during the course of routine inspection, or in consequence of a complaint or other information, sufficient details concerning the matter are supplied to enable the matter to receive careful consideration as to the appropriate action to be taken.

Such reports also serve as an indication as to the effectiveness of administration throughout the City as a whole.

With regard to contraventions in respect to which summary action may be taken, it is the practice, after careful consideration of the facts in each case giving *prima facie* evidence that an offence has occurred, to send a warning letter to the occupier of the shop, or the employer of the persons affected.

It is felt that in bringing such matters to their notice in writing, they are given the opportunity to rectify errors which may be due more to carelessness than intent, without any loss of mutual respect; at the same time attention is drawn to the need to comply with all the statutory provisions affecting their business, in order to avoid the necessity for further proceedings. It is expected that such a warning should be sufficient and in the event of a further contravention, proceedings are instituted, provided the facts and the circumstances relating to the offence justify such action.

As regards contraventions of the provisions of the Shops Act, 1950, relating to arrangements for the health and comfort of shop workers, in respect to which notice must be served upon the owner or the occu-

pier of a shop, a reasonable period of time is allowed for compliance with the requirements of the notice, and if necessary further time is allowed to meet any difficulty which may arise. On the whole, such notices have been complied with promptly and effectually, and only in a few cases was it found necessary to press for the work to be carried out. As in previous years, with the exception of 1949, when proceedings were taken in the Court in one instance, the requirements of notices served upon owners and occupiers have been complied with in a satisfactory manner and without the necessity for further proceedings.

PLACES OF PUBLIC ENTERTAINMENT.

Systematic visitation of Theatres, Cinemas, and Skating Rinks has been carried out by the Shops Inspectors, in connection with maintenance of means for proper ventilation, the condition of sanitary conveniences, water supply and general cleanliness. During the year, 789 evening visits were made and inspections were also carried out in the day-time. In 28 cases defects of a minor character were noted, these being remedied without delay when they were brought to the notice of the managers.

Certain places of entertainment contain shops for the supply of tobacco, sweets and ice cream to patrons, and the provisions of the Shops Acts relating thereto, and to the employment of young persons under those Acts or the Young Persons (Employment) Act, 1938, were applied, together with the requirements of Section 13 of the Food and Drugs Act, 1938.

In connection with the administration of the various Acts to shops and other premises visited by Shops Inspectors, notices have been issued as follows:

Act.					Notices issued.	
					Preliminary.	Statutory.
Public Health Act, 1936	...	...	...	...	1,012	380
Food and Drugs Act, 1938	...	...	...	...	482	908
Shops Act, 1934, Section 10	}	...	...	...	764	395
Shops Act, 1950, Section 38						
Prevention of Damage by Pests Act, 1949	...	...			—	3

In addition to the notices served under the Food and Drugs Act, 1938, and Shops Acts, 2,583 Warning Letters were sent to the occupiers of shops in respect to contraventions of these Acts.

PARTICULARS OF INSPECTIONS.

APPROXIMATE NUMBER OF SHOPS IN THE CITY—19,200.

	Inspection.	Contraventions.		
			Reported.	Remedied
A.	Retail shops visited ... 8,850 Retail shops re-visited ... 12,787 Retail warehouses visited ... 12 Retail warehouses re-visited ... 17 Assistants employed. Young Persons—Male ... 758 Young Persons—Female ... 1,073 Adults—Male ... 2,579 Adults—Female ... 4,702	Shops Act 1950. Half-holiday closing ... 72 72 Mixed trades notice ... 151 151 Closing notice (Alt. W.H.H.) ... 241 241 Assistants' Half-holiday ... 95 95 Intervals for meals ... 43 43 Seats for female assistants ... 50 50 Assistants' half-holiday notice 684 684 Evening closing ... 42 42 Mixed trades notice ... 60 60 Hours of employment of young persons ... 4 4 Night employment of young persons ... 2 2 Record of hours of em- ployment of young persons ... 314 314 Abstract of provisions of 1950 Act (Forms H and J) 284 284 Notices as to seats for female assistants (Form K) ... 647 647 Other notices (A-Z) ... 1 1 Ventilation ... 8 6 Temperature ... 18 10 Sanitary conveniences ... 1,215 989 Lighting ... 25 23 Washing facilities ... 169 139 Facilities for taking meals ... 10 10 Closing of shops on Sunday ... 67 67 Mixed Shops' Notice (Form I) ... 227 227 Record of Sunday employment ... 189 189		
B.	Wholesale shops visited ... 102 Wholesale shops re-visited ... 39 Wholesale warehouses visited ... 13 Wholesale warehouses re-visited ... 20 Young persons employed. Male ... 13 Female ... 20 Adults employed. Male ... 60 Female ... 56			
Half-holiday Closing.				
Visits to shops after 1 p.m. ... 101,905				
Evening Closing.				
Visits to shops—				
After 6 p.m. ... 26,779				
After 7 p.m. ... 28,300				
After 8 p.m. ... 9,396				
After 9.30 p.m. ... 5,358				
After 10 p.m. ... 25				
Sunday Closing.				
Visits to shops on Sunday ... 6,749				
Public Health Acts.				
No. of nuisances reported ... 1,595		TOTALS	... 4,618	4,350
No. of nuisances abated ... 1,124				
No. of nuisances outstanding ... 471				

Common Lodging-houses.

At the commencement of the year there were on the register 19 Lodging-houses providing accommodation for 1,202 lodgers. One lodging-house for 21 females was closed during the year.

18 applications were received from persons for the renewal of registration as keepers, which were granted for a further period of twelve months.

26 verbal notices for infringements of the byelaws were given to registered keepers during the year.

51 notices were served under the Byelaws relating to Common Lodging-houses in respect of choked and defective drains, verminous bedding and beds, floors unswept and not washed, windows requiring cleaning, and dirty condition of ceiling and walls, rooms, staircases and landings, 30 of which were abated at the end of the year. 14,607 beds were examined and 206 found verminous; of these, 124 beds were cleansed by the local authority, 70 by the keepers, and 12 were destroyed. 188 lodgers were found to be verminous, and were cleansed by the local authority.

Inspection of Common Lodging Houses.

Number of houses on register at 31st December, 1950 (males only)	...	...	...	...	...	16
Number of houses on register at 31st December, 1950 (females only)	...	...	...	...	...	2
Number of lodgers allowed (males)	...	...	...	...	...	1,059
Number of lodgers allowed (females)	...	...	...	...	...	113
Number of day visits	...	...	...	...	...	805
Number of nocturnal visits	...	...	...	...	...	43

Seamen's Lodging Houses.

At the commencement of the year there were 20 Seamen's Lodging-houses on the register. Three applications were received from persons for licences to keep a Seamen's Lodging-house, and schedules of works necessary to be carried out in order to comply with the byelaws have been sent to the keepers concerned.

The keepers of 12 Seamen's Lodging-houses have been licensed, and applications were received for renewal of 12 licences, which were granted.

At the end of the year there were 20 Seamen's Lodging-houses on the register.

Number of Houses.	Nationality of Seamen.				Number of Seamen allowed.
6	British	...	...	...	420
3	Chinese	...	...	...	320
8	Arab	...	...	...	155
2	Somalis	...	...	...	28
1	Norwegian	...	...	...	50
20					973

Number of inspections	...	...	...	...	...	774
Number of nocturnal inspections	...	...	...	...	...	41
Number of houses in which contraventions of byelaws were found	...	...	...	...	...	59
Number of contraventions of the byelaws	...	...	...	...	...	163
Number of contraventions abated	...	...	...	...	...	136
Number of verbal notices	...	...	...	...	...	20
Number of statutory notices issued	...	...	...	...	...	38
Number of beds and bedding examined	...	...	...	...	...	14,628
Number of beds and bedding found verminous	...	...	...	...	...	5
Number of beds and bedding disinfested by local authority	...	...	...	...	...	5

Houses Let-in-Lodgings.

Number of houses visited	...	...	...	...	...	4,497
Number of inspections	...	...	...	...	...	10,056
Number of houses found dirty	...	...	...	...	...	97
Number of houses found cleansed on revisit	...	...	...	...	...	97
Number of verbal notices	...	...	...	...	...	94
Number of preliminary notices issued	...	...	...	...	...	623
Number of statutory notices issued	...	...	...	...	...	279
Number of nuisances found	...	...	...	...	...	1,584
Number of unisances abated	...	...	...	...	...	1,499

There is an increasing number of large eight- to twelve-roomed Georgian type of house, which are being used as houses let in lodgings, particularly in the Abercromby Ward. These houses are too large for one family and the chief tenants resort to sub-letting to enable them to pay the rent. The number of families occupying 320 sub-let houses vary from 5 to 12 families per house. No additional sanitary accommodation or water supply is provided, and the existing facilities usually consist of one water-closet and one sink with only a cold water tap, very often situate in the cellar. The usual amenities associated with family life, such as cooking facilities, washing and bathing accommodation, food stores, hot and cold water, and disposal of refuse, are entirely absent for each letting in the majority of cases. These conditions are most disturbing and render a high standard of personal cleanliness very difficult, especially when there are several families and children in the same house.

It is estimated that at the present time approximately 13,000 houses are sub-let in an haphazard manner. A recent survey indicates that in five wards, viz., Abercromby, Brunswick, North and South Scotland and St. Annes, the following number of houses were sub-let to more than one family:—

Ward.		Total No. of Houses in Ward.	No. of Houses Sub-let.	Percentage.
Abercromby	... ...	3,352	1,682	50·17%
Brunswick	... ...	2,757	463	16·7%
North Scotland	... ...	2,418	357	14·76%
South Scotland	... ...	2,686	380	14·1%
St. Annes	...	1,694	368	21·72%

SUMMARY OF HOUSES SUB-LET TO MORE THAN ONE FAMILY.

Ward.	Total No. of Houses.	No. of Families per House.											Total No. of Houses Sublet.
		2	3	4	5	6	7	8	9	10	11	12	
Abercromby ...	3,352	739	396	227	130	92	52	28	9	4	3	2	1,682
Brunswick ...	2,757	364	61	19	10	8	1	—	—	—	—	—	463
North Scotland	2,418	310	40	6	1	—	—	—	—	—	—	—	357
South Scotland	2,686	323	49	8	—	—	—	—	—	—	—	—	380
St. Annes ...	1,694	285	64	11	2	4	1	1	—	—	—	—	368

Draft byelaws in connection with this type of house were submitted to the Ministry of Health on two occasions since the war, and the local authority was informed that the time was not opportune and they must rely on their general powers in the Housing and Public Health Acts, 1936.

Canal Boats.

Public Health Act, 1936. Part X. Sections 249 to 258.

The Docks and Inland Waterways Executive, North-Western Division, are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the city (exclusive of the locks communicating with the Dock Estate) is approximately three miles.

The number of inspections of canal boats during the year was 2,431, and the condition of the boats and their occupants as regards matters dealt with in the Act and Regulations is indicated in the following table:—

TABLE I.

Boats on register, 1st January, 1950	...	...	403
New boats registered	...	...	9
Boats removed from register	...	...	—
Boats on register, 31st December, 1950	...	...	412

Contraventions were found on 50 boats, of which 12 were registered by other Authorities.

TABLE II.

Nature of Contraventions.	Reported.	Remedied.
Unregistered boats used as dwellings	3	3
No certificate of registration on board	15	14
Leaking decks	16	13
Defective stove or stove pipes	11	11
Cabins requiring re-painting	9	9
Deficient ventilation	1	1
Registering, lettering, etc., not legible	9	7
Defective pump	1	1
Defective water-cask	1	1
TOTAL ...	66	60

TABLE III.

NUMBER AND TYPES OF BOATS REGISTERED, 31ST DECEMBER, 1950.

Motor-propelled boats	...	...	...	89
Motor-towed boats	...	...	...	45
Steam-propelled boats	...	...	...	63
Steam-towed boats	...	...	...	123
Horse-drawn boats	...	...	...	92
Total ...				412

Written notices were issued to owners in 50 instances, of these notices 45 have been complied with. No informations were laid during the year against owners or masters for infringement of the Act or Regulations. No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district.

The Inspectors of the Port Health Authority made 515 inspections of canal boats in the docks, and 45 contraventions were found, which were subsequently dealt with. These figures are included in the foregoing table.

TABLE IV.

DETAILS OF VISITS TO CANAL BOATS.

Number of boats visited	...	...	...	...	175
Registered at Liverpool	...	...	...	...	103
,, ,, Leeds	...	...	...	...	1
,, ,, Manchester	...	...	...	...	11
,, ,, Runcorn	...	...	...	...	10
,, ,, Chester	...	...	...	...	1
Boats not registered and not used as dwellings					49

All were "wide" boats, 35 being steam-towed, 60 motor-propelled, 4 steam-propelled, 54 motor-towed, and 22 horse-drawn.

The number and sex of persons found in occupation of the 126 canal boats used as dwellings are indicated in the following table:—

TABLE V.

POPULATION OF CANAL BOATS.

Men	...	...	...	...	...	252
Women	...	...	...	...	...	—
Children	...	...	...	...	...	—

distributed as under:—

Males over 14 years of age	...	...	252
Males over 5 years and under 14 years	...	...	—
Males under 5 years	...	...	—
Females over 12 years of age	...	...	—
Females over 5 years and under 12 years	...	...	—
Females under 5 years	...	...	—

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above table.

No children of school age were found on canal boats during the year, and no families were found on a boat on the canal who had not a home ashore in addition to that on board.

The Hydrogen Cyanide (Fumigation) Act, 1937.

Official notice has been received in respect of 5 fumigations under the Hydrogen Cyanide (Fumigation) Act, 1937, 5 dwelling-houses were satisfactorily fumigated under the supervision of the sanitary inspectors,

Court and Alley Inspections.

1,665 inspections were made of courts and alleys, and 1,246 inspections of water-closets used in common, visits being made by sanitary inspectors to ascertain whether these common water-closets are kept in a clean condition.

Prohibition of Sale of Verminous Furniture, etc.

Under Section 83 of the Liverpool Corporation Act, 1936, no dealer shall sell or expose for sale any second-hand furniture, mattress, bed linen or similar articles if these are to his knowledge infested with bed bugs, or if by taking reasonable precautions he could have known them to be infested. 1,635 visits have been paid to premises by the sanitary inspectors, and no infringements were observed.

Removal of Remains.

Under the terms of licences issued from the Home Office the sanitary inspectors supervised the exhumation and re-interment of 14 bodies during the year.

Exhumations from St. Mary's Recreation Ground, Mulberry Street (previously St. Mary's Cemetery) commenced on 3rd November, 1950, and to the end of the year 264 remains had been exhumed and re-interred in Walton Park Cemetery.

Miscellaneous.

STABLES.—Stables within the city are systematically inspected by the sanitary inspectors, constant attention being paid to the frequent removal of manure and to general sanitation. The total number of visits to stables during the year was 3,148, the number found occupied was 237, and the number disused was 143.

The manure depots are situated in close proximity to the North Corporation destructor, and visits are made to them to see that the manure which has been received from the stables in the centre of the city is frequently removed so as to avoid the possibility of breeding places for flies. During the year 110 visits were made to manure depots.

MARINE STORES.—During the year 161 visits were paid to 12 marine stores, and in no cases were nuisances found.

PARKS.—Fortnightly visits are paid to all public sanitary conveniences within parks and gardens throughout the city to ascertain if they are kept in a clean condition and in good repair, 730 visits were made and in 23 instances they were found to be incorrect, the necessary action being taken to remedy defects.

POULTRY DEPOTS.—12 poultry depots were visited fortnightly, and were found to be in a clean condition.

SCHOOLS.—2,301 visits were made to schools, and in 50 instances defects were found. The necessary steps were immediately taken to have the defects remedied.

SUMMARY OF PROSECUTIONS.

Act.	Section.	No. of Informations.	Penalties.	Costs.	Magistrates' Orders.
Public Health Act, 1936	... 75	24	£ 12 15 0	Nil	—
Public Health Act, 1936	... 94	133	188 0 0	0 4 0	81
Public Health Act, 1936	... 95	31	149 0 0	Nil	—
Public Health Act, 1936	... 154	2	1 0 0	0 5 6	—
Liverpool Corporation Act, 1921	468	22	31 0 0	Nil	—
Shops Act, 1912 (Half Holiday)	—	11	5 10 0	Nil	—
Shops Act, 1928 (Evening Shops Act, 1950 Closing) }	—	9	10 0 0	Nil	—
Shops Act, 1934 (Young Persons, etc.)	—	3	1 10 0	0 5 0	—
Shops (Sunday Trading Restriction) Act, 1936 }	—	15	22 10 0	0 5 0	—
Shops Act, 1950 (Sunday Trading)	—				
Food and Drugs Act, 1938	... 13	9	20 0 0	Nil	—
TOTALS	—	259	£441 5 0	£0 19 6	81

Cases withdrawn ...	...	5
Cases dismissed ...	...	4
Summons not served ...	...	6

RODENT CONTROL.

Prevention of Damage by Pests Act, 1949.

Annual Report, 1950.

The Prevention of Damage by Pests Act, 1949, came into force on the 31st March, 1950, and the powers of the local authority in relation to the control of rats and mice in its administrative area are greatly strengthened thereby.

The new Act re-enacts, with modifications, the Rats and Mice (Destruction) Act, 1919, and also makes permanent provision for preventing loss of food by infestation, hitherto dealt with by the Infestation Order, 1943, S.R. & O. 680, made under the Defence (General) Regulations, 1939.

Duties of Local Authorities.

The Act imposes an additional statutory duty on the local authority to take such steps as may be necessary to secure, as far as practicable, that their district is kept free from rats and mice, and in particular to

- (1) carry out systematic inspection of lands and buildings;
- (2) destroy rats and mice on land of which they are the occupiers;
- (3) enforce the duties of owners and occupiers of lands under Part I of the Act; and
- (4) keep records and submit reports as may be required by any direction given by the Ministry of Agriculture and Fisheries.

The importance of securing adequate rodent control needs no emphasis, for it is recognised that the presence of a high rat and mouse population within the city would be a potential danger to the health and wellbeing of the public. The financial and material loss occasioned by rodents in the form of destruction and damage to essential food, especially during the present food shortage, to other valuable goods, to buildings and to installations are also important factors to be considered.

In addition, due regard is given to the possibility of food contamination where these pests associate with our food supplies.

Active measures, therefore, have been taken for many years in Liverpool to ensure the destruction of rats and mice and to bring to the notice of the public the necessity of reducing the rodent population to the lowest possible dimensions.

Precautions are also taken to safeguard against the possibility of the spread of plague, a disease which may be brought into the port by rats on ships arriving from foreign countries, and a proportion of the rodents collected are sent to the City Bacteriologist daily for the detection of plague infection. It is satisfactory to report that all specimens submitted during the year were found to be free from plague.

The work of maintaining adequate rodent control following the special campaign in recent years has continued throughout 1950.

Procedure.

The Rodent Control staff are employed to

- (a) carry out systematic periodic inspection of buildings and lands within the dockside wards, central area, and any other places where rodents are likely to be found;
- (b) investigate complaints received concerning rats and mice;
- (c) prescribe the appropriate treatment to remedy infestations and determine the sites to be included in block control schemes;
- (d) make the necessary arrangements with occupiers to remedy infestation by collective and concerted action, operating when required for the destruction of rats and mice; and
- (e) generally assist occupiers towards the destruction of rodents and the prevention of infestation.

Systematic Survey.

The Rodent Exterminators examined 14,585 sites during the year in connection with systematic survey and investigation of complaints.

A further 63,743 visits were made entailing operational work and re-examination of buildings and lands. Sanitary Inspectors also made, in conjunction with other matters, 118,286 inspections under the Act,

Complaints relating to rats and mice to the total of 5,287 were received and appropriate action was taken in each case where the occasion warranted.

Infestations.

During the year, 2,938 buildings and lands were subject to initial infestation, and of this total 1,786 were rat infested, 20 were rat and mouse infested and 1,132 were mouse infested only.

In addition, 1,116 sites previously disinfested since the commencement of the special campaign in the year 1943 were found to be again affected by rats or mice. Of these, 744 were by rats, 34 by rats and mice, and 338 by mice only.

Re-infestations occurred in 135 premises treated during the year. 64 were by rats, 7 by rats and mice, and 87 by mice only.

The total infestations and re-infestations of 4,054 buildings and lands was 4,212.

The principal sites of infestation were centred in industrial and commercial buildings within the dockside wards and central area.

Infestations within the middle belt of the city were generally of a very minor degree and for the most part concerned rats in or near, or mice, in dwelling-houses, of which the source of infestation in the case of rats was considered in many instances to have been from the sewer via defective drains.

Infestations on the outskirts of the city were also minor in character and chiefly confined to gardens of dwelling-houses, especially those in the vicinity where poultry are kept.

Although the presence of rats was reported in connection with a large number of dwelling-houses, the limited supply of food and facilities for harbourage in such places available for rats necessitates their taking a wide range of movement, thereby increasing the number of sites showing traces of the pests without concentrated areas of infestation. Furthermore, the prompt action of occupiers of dwelling-houses in reporting the presence of rodents enables the department to take

the necessary action before infestation is allowed to develop to serious proportions.

A report of the conditions of infestation in each case was made, together with recommendations for the destruction of the rodents including any reasonable measure considered necessary to keep the land free from rats and mice.

Disinfestation.

The treatment to remedy infestations was prescribed and applied by the Rodent Control staff in accordance with the approved methods of rat and mouse destruction now recommended. The infested sites within each area of infestation were, therefore, dealt with at one and the same time to pre-arranged timetables under the block system of control.

Whilst the work was proceeding, the non-infested sites bounding those under treatment were periodically re-examined as a precautionary measure.

Generally, it is found that occupiers of buildings and lands affected show readiness to participate in block schemes, but in 10 cases recalcitrant persons were served with a notice under the provisions of the Prevention of Damage by Pests Act, 1949, to obtain the desired result. It has not been necessary to institute proceedings for non-compliance with the Act.

The practice of providing free assistance to occupiers of private dwelling-houses has been continued.

Occupiers of premises and lands other than private dwellings who desire the department's assistance in the actual destruction of rats and mice are required to reimburse the local authority for the expenditure incurred in so doing. The demand for such assistance is appreciable, and 1,124 requests were received from occupiers during the year.

During the year, 3,922 buildings and lands were disinfested from rats and/or mice.

Rat and Mouse Destruction.

It is estimated, using the appropriate formula for calculating the kill, that a total of 15,632 rats were destroyed as the result of poisoning

TABLE I.

SUMMARY INDICATING THE EXTENT TO WHICH BUILDINGS AND LANDS WERE FOUND INFESTED BY RATS AND MICE AND THE NUMBER DISINFESTED DURING THE YEAR 1950.

Description of Buildings and Lands	Buildings and Lands examined	Initial Infestations				Infestations in 1949 of sites disinfested 1943/1949				Reinfestations during year				Category of Infestation.	Species of Rats	Buildings and Lands disinfested	Infestations and Reinfestations remedied		
		Premises	Rats	Rats and Mice	Mice	Premises	Rats	Rats and Mice	Mice	Total Premises Infested	Premises	Rats	Rats and Mice	Mice	Total Infestations and Reinfestations				
Air Raid Shelters—Public ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Allotments ...	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Bakehouses ...	15	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Camps ...	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
Cemeteries ...	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Churches, Chapels, etc. ...	30	5	4	4	4	4	3	3	3	9	9	9	9	9	9	9	9	9	
Clinics ...	17	4	2	2	2	2	1	1	1	10	10	10	10	10	10	10	10	10	
Clubs ...	43	7	6	6	6	6	4	4	4	16	16	16	16	16	16	16	16	16	
Dairies ...	21	2	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	
Derelict Buildings ...	67	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	
Ditches ...	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	
Dwelling-Houses ...	9,286	2,042	1,196	7	839	442	282	6	154	2,484	73	42	2	39	2,567	15	1,520	2,573	2,500
Factories—Food ...	68	9	7	1	1	24	23	1	33	2	35	3	2	2	17	21	30	28	
Factories—Non-Food ...	588	62	42	20	108	77	8	23	170	7	182	2	10	10	42	95	196	189	
Farms ...	6	3	3	1	1	1	1	1	4	4	4	4	4	4	4	4	4	4	
Garages ...	157	11	9	1	1	14	13	1	25	7	25	7	7	7	7	16	19	19	
Gardens—Market ...	8	6	5	1	1	1	1	1	7	7	7	7	7	7	7	6	4	4	
Government Buildings ...	35	6	2	4	4	4	1	1	10	10	10	10	10	10	10	10	10	10	
Hospitals ...	20	4	2	2	2	8	3	1	12	3	15	3	3	3	15	1	6	11	8
Hotels—Residential ...	22	6	2	6	6	7	2	5	15	270	15	2	2	2	13	4	12	13	
Institutions : Homes ...	22	8	2	6	6	19	19	5	15	270	15	2	2	2	270	1	269	208	208
Land, Banks, etc. ...	401	251	251	19	19	19	19	5	15	270	15	2	2	2	270	1	269	208	208
Land, Bombed Sites ...	225	8	8	1	1	1	1	1	9	9	9	9	9	9	9	9	7	7	
Marine Stores... ...	11	1	1	1	1	3	3	2	4	2	4	2	2	2	4	2	3	3	
Markets—Food ...	2	1	1	1	1	2	2	1	2	2	2	2	2	2	2	1	2	2	
Nursing Homes ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Offices ...	518	75	24	2	49	58	29	2	27	133	11	6	7	146	146	39	26	140	129
Parks, Recreation Gardens ...	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	
Piggeries ...	3	2	2	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	
Places of Public Entertainment ...	30	5	1	1	4	6	2	4	11	32	3	2	1	12	12	1	2	17	16
Public Buildings ...	9	1	1	1	1	2	2	2	3	32	3	2	1	3	3	3	2	3	
Public Houses ...	177	18	11	2	5	14	14	1	1	1	1	1	1	35	35	1	21	30	27
Railway Banks ...	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
Railway Sidings ...	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	4	
Railway Stations ...	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	4	
Refreshment Houses... ...	162	33	13	20	42	24	5	13	75	3	1	1	1	1	78	78	6	40	74
Refuse Destructor ...	2	1	1	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	
Schools—Public ...	160	38	7	31	56	10	3	43	94	8	1	1	8	104	104	4	18	105	97
Shops—Food ...	823	136	56	4	76	61	42	1	18	197	7	2	1	6	206	12	95	189	182
Shops—Non-Food ...	1,134	113	64	3	46	104	80	4	20	217	13	6	1	7	231	41	122	206	193
Slaughter-Houses ...	5	1	1	1	1	3	3	1	1	3	1	1	1	1	1	1	1	1	
Sports Grounds ...	4	1	1	1	1	2	2	1	1	9	1	1	1	1	9	9	3	9	9
Stables ...	41	7	7	1	1	1	1	1	2	2	1	1	1	1	2	2	1	1	
Store Sheds ...	4	2	1	1	1	1	1	1	5	59	1	1	1	1	60	60	26	37	62
Warehouses—Food ...	122	23	19	4	36	30	1	5	14	4,054	135	64	7	87	4,212	9	4,203	296	2,422
Warehouses—Cotton ...	25	...	...	...	14	14	...	...	14	...	...	...	...	14	14	1	6	6	6
Warehouses—Forage ...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warehouses—General ...	285	35	27	8	48	48	...	...	83	2	2	1	1	86	86	49	43	73	71
TOTAL ...	14,585	2,938	1,786	20	1,132	1,116	746	34	336	4,054	135	64	7	87	4,212	9	4,203	296	2,422

N.B.—The Infestations remedied include 772 which were outstanding at the end of 1949.

TABLE II.

RODENT DESTRUCTION—BUILDINGS AND LANDS.

SUMMARY OF OPERATIONAL DETAILS IN CONNECTION WITH THE DESTRUCTION OF RATS AND MICE IN SURFACE INFESTATIONS DURING THE YEAR 1950.

Description of Buildings and Lands		Total	Infestations remedied		Method employed		PRE-BAITING								POISONING								RODENT DESTRUCTION BY LOCAL AUTHORITY																					
			By Local Authority	By Occupier	Poisoning	Poisoning and Trapping	Trapping	Quantities shewn in Ounces		Points Baited		Quantities shewn in Ounces		Post Bait in Ounces		Dead Rats collected		Break Back Traps		Trays		How disposed		Species of Rats																				
								Sausage Rusk	Bread	Sugar Meal	Wheat	Laid	Taken	Laid	Taken	Zinc Phosphide	Arsenic	Red Squill	Alpha Naphthyl Thiourea	Total Poison Bait laid	Total Poison Bait taken	Laid	Taken	Rats caught	Mice caught	Rats	Mice																	
Factories	226	199	27	...	127	62	10	12,052	6,791	2,859	1,538	1,170	601	3,520	1,838	5,962	5,131	968	1,810	313	680	152	756	139	8,377	1,572	7,729	1,631	283	146	3,647	349	150	58	163	81	...	609	459	400	290	690	459	4,054
Warehouses	141	101	40	...	58	41	2	13,371	7,438	4,939	2,851	589	238	2,590	1,296	3,931	4,692	890	2,034	313	998	165	1,394	232	9,118	1,600	8,188	1,739	908	68	4,303	1,014	30	204	121	229	5	1,897	214	1,094	1,032	2,126	219	5,521
Shops	395	318	77	...	226	67	25	6,079	3,900	1,061	662	1,275	722	989	618	4,996	2,923	580	596	106	245	58	279	61	4,043	805	3,430	782	267	286	1,416	606	106	255	401	108	...	1,020	793	413	715	1,128	793	2,277
Dwelling Houses	2,573	2,212	356	5	2,075	102	35	12,552	5,721	2,668	1,661	3,023	1,613	74	37	22,313	6,432	2,051	35	10	2,642	818	181	68	9,290	2,947	2,904	438	304	256	4,259	474	70	86	3	692	323	21	757	778	326	4,733
Other Premises and Land ...	722	437	86	199	366	53	18	7,116	3,912	1,816	1,013	2,599	1,262	986	602	12,206	4,005	771	770	155	758	190	531	88	6,064	1,204	4,261	932	516	451	2,007	705	167	164	356	114	...	1,271	974	168	1,217	1,385	974	2,876
TOTAL	4,057	3,267	586	204	2,852	325	90	51,170	27,762	13,343	7,725	8,656	4,436	8,159	4,391	49,408	23,183	5,260	5,245	897	5,323	1,383	3,141	588	36,892	8,128	26,512	5,522	2,278	1,207	15,632	3,148	523	681	1,041	618	8	5,489	2,763	2,096	4,011	6,107	2,771	19,461

treatment in buildings and lands, and 2,278 dead rats were collected during operations. In addition, 3,829 rats were caught in traps.

A further 9,478 rats were caught in sewers by the rat-catchers employed by the City Engineer and Surveyor's Department and collected from the several depots.

The species of rats collected were 13,489 *Rattus Norvegicus* ("brown" or common rat) and 2,096 *Rattus Rattus* ("black" or ship rat).

The total number of rats destroyed by poisoning and trapping in buildings, lands and sewers is calculated to be 28,939.

A proportion of rodents collected, 618 rats and 8 mice, were sent to the City Bacteriologist for examination and the remainder were burnt.

With regard to the destruction of mice, 2,771 were collected as the result of poisoning and trapping operations. A formula for calculating the kill by the use of poison in relation to mice is not available, but there is no doubt that the number destroyed by this method is appreciable when taking into consideration the amount of poison bait consumed by mice as indicated in Table III.

Preventative Measures.

Co-ordinated action by the Sanitary Inspectors and Rodent Control staff is taken when required in relation to preventative measures. Conditions likely to contribute to infestation, such as food or food waste available to rodents which could reasonably be protected, or lack of environmental hygiene were at once brought to the notice of the persons responsible.

Preventative measures and works of proofing were carried out during or following the process of disinfection as the occasion warranted. The works of proofing comprise, *inter alia*, amending defective drains, protection of external doors, windows, ventilators and other openings in walls and roofs of buildings, elevation of poultry houses and sheds clear of ground, and the abolition of unnecessary harbourages to prevent infestation by rats and mice.

The following Tables I to V indicate the type of building or land found infested, details in connection with the destruction of rats and mice, and generally summarise the work of Rodent Control.

TABLE III.
MOUSE DESTRUCTION BY LOCAL AUTHORITY DURING THE YEAR 1950.
DETAILS OF POISONING AND TRAPPING OPERATIONS.

TABLE IV.

BUILDINGS, LANDS AND SEWERS.

NUMBER AND SPECIES OF RATS AND MICE COLLECTED, EXAMINED AND DESTROYED
IN THE CITY OF LIVERPOOL DURING THE YEAR 1950.

	Buildings and Lands.			Sewers.		Total Examined.		Total Burnt.		Total Rats.	Total Mice.
	Rats Black.	Rats Brown.	Mice.	Rats Black.	Rats Brown.	Rats.	Mice.	Rats.	Mice.		
January	156	297	228	—	786	159	—	1,080	228	1,239	228
February	232	206	137	—	744	101	—	1,081	137	1,182	137
March	161	251	247	—	797	88	—	1,121	247	1,209	247
April	141	283	157	—	756	71	—	1,109	157	1,180	157
May	162	209	175	—	868	69	—	1,170	175	1,239	175
June	100	329	210	—	830	68	1	1,191	209	1,259	210
July	160	291	323	—	936	50	—	1,337	323	1,387	323
August	207	414	164	—	829	77	2	1,373	162	1,450	164
September ...	163	429	284	—	804	87	—	1,309	284	1,396	284
October	233	467	267	—	719	105	—	1,314	267	1,419	267
November	196	456	228	—	817	76	2	1,393	226	1,469	228
December	185	379	351	—	592	107	3	1,049	348	1,156	351
Total	2,096	4,011	2,771	—	9,478	1,058	8	14,527	2,763	15,585	2,771

TABLE V.

BUILDINGS, LANDS AND SEWERS.

TOTAL RATS DESTROYED BY POISONING AND TRAPPING DURING THE YEAR 1950.

Sewers	Buildings and Lands.			Estimated Total Rats Destroyed.
	Trapping.	Trapping	Poisoning.	
Rats caught.	Rats caught.	Dead Rats Collected.	Estimated Rats destroyed : Not Found.	
9,478	3,829	2,278	13,354	28,939

HOUSING.

Normal progress in regard to Slum Clearance ceased under the terms of the Ministry of Health Circular 1866, dated 8th September, 1939.

During 1950, slum clearance has been resumed and action taken in respect of 118 houses, but such action is controlled by the erection of new houses. In addition, 566 notices have been served under the provisions of Section 9 of the Housing Act, 1936, upon the owners to execute such works as will, in the opinion of the Council, render the houses fit for human habitation.

Clearance Areas.

The following summary refers to dwelling-houses represented by the Medical Officer of Health during the year 1950 being unfit for human habitation within the meaning of Section 25 of the Housing Acts, 1936/49:—

Number of dwelling-houses represented during 1950 ...	6
„ „ persons occupying the dwelling-houses ...	21
„ „ clearance areas officially represented ...	2
„ „ areas declared compulsory purchase orders	2
„ „ areas declared clearance orders	Nil
„ „ areas in abeyance	1

The Housing (Declaration of Unfitness) Regulations, 1947.

The following number of dwelling-houses were represented as being unfit for human habitation and not capable of being rendered so fit at reasonable expense:—

Dwelling houses	26
Number of persons occupying the dwelling-houses ...	122

Progress of Slum Clearance.

The following summary indicates the number of houses dealt with to date :—

Year.	No. of C.O.'s.	No. of C.P.O.'s.	No. of Declaration of Unfitness Orders.	No. of Dwelling Houses.	No. of Persons to be Displaced.	No. of Houses Demolished.	No. of Persons Displaced.
1930	—	16	—	398	3,430	—	—
1934	60	42	—	2,757	13,093	—	709
1935	47	60	—	2,793	14,302	278	1,285
1936	55	59	—	3,511	17,923	695	3,263
1937	60	27	—	1,867	9,979	872	4,637
1938	38	5	—	2,583	11,923	1,412	6,654
1939	18	4	—	814	3,895	1,076	4,995
1940	—	—	—	—	—	631	3,214
1941	—	—	—	—	—	653	3,707
1942	—	—	—	—	—	916	4,223
1943	—	—	—	—	—	654	3,387
1944	—	—	—	—	—	423	2,115
1945	—	—	—	—	—	190	920
1946	—	—	—	—	—	374	1,396
1947	—	—	1	35	156	485	2,540
1948	—	—	3	65	215	260	1,299
1949	4	16	—	373	1,362	161	678
1950	—	2	1	32	143	327	1,536
TOTALS	282	231	5	15,228	76,421	9,407	46,558

Public Inquiries.

During the year under review, 2 Public Inquiries were held, in connection with 2 areas, further details of which are set out in the following table :—

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be Displaced.
1	1	24	141

During the year 7 Confirmation Orders were received in connection with 267 dwelling-houses. These orders confirmed the inclusion of 100 per cent. of dwelling-houses in the areas.

The following is a list of Clearance Areas which were represented during the year :—

Compulsory Purchase Orders.

Clearance Areas.	Houses.	Populatino.
Wellbank, Woolton Road, Garston	4	18
Falkner Street, No. 1	2	3
TOTALS	6	21

Declaration of Unfitness Orders.

Unfitness Orders.	Houses.	Population.
Walnut Street Declaration of Unfitness Order	26	122
TOTALS	26	122

Areas Still in Abeyance.

Clearance Areas.	Houses.	Population.
Commercial Road No. 1	3	20
TOTALS	3	20

Individual Unfit Houses.

Since operations were commenced under the Housing Acts, 1936/49, the Medical Officer of Health has submitted representations in connection with 1,421 individual houses to the Housing Committee which, in his opinion, were unfit for human habitation.

During the year, 86 individual houses were represented as being unfit for human habitation within the meaning of Section 11 of the Housing Acts, 1936/49, which were dealt with as follows :—

Demolition Orders made ...	...	...	...	...	...	...	89
Undertakings given not to use for human habitation	...						4
Undertakings given to render houses fit for human habitation in accordance with approved schemes	...	...	...	...	...	...	nil
Undertakings cancelled after houses have been rendered fit...	...						nil
Number adjourned	...	...	...	...	...	...	16
Number of representations still to be considered	...	...	...	...	...	...	23
Number of properties acquired by Local Authority	...	...	...	...	...	...	nil

Housing Acts, 1936/49, Section 9.

Proceedings under Section 9 of the Housing Acts, 1936/49 :—

(a) Number of dwelling-houses inspected	...	...	...	...	...	792
(b) Number of dwelling-houses in respect of which notices were served requiring repairs	...	...	...	...	...	505
(c) Number of dwelling-houses which were rendered fit after service of formal notices :—						
(i) by owners	...	...	...	...	...	283
(ii) by local authority in default of owners	...	...	...	...	...	nil
(iii) number of items of works carried out	...	...	...	...	...	8,649
*(iv) number of houses where work is in progress	...	...	...	...	...	653
(v) number of houses where time allowed on notices to carry out the work had not expired	...	...	...	...	...	83

*This figure includes houses for which notices were served in 1949.

Defence (General) Regulations, 1939. Regulation 68AA,

One application was received for a licence to re-open houses included in confirmed Clearance Orders, under the above regulations. 37 applications were received for the renewal of licences for the temporary re-occupation of houses included in confirmed Clearance Orders. All applications were granted.

Increase of Rent and Mortgage Interest (Restrictions) Acts, 1920-1939.

Certificates have been issued under the above Acts in respect of 197 dwelling-houses which were not in a reasonable state of repair. 18 applications were received from landlords for a report that the premises were deemed to be in a reasonable state of repair, and all these applications were granted.

Houses erected on Suburban Estates at 31st December, 1950.

(Including houses erected on the outskirts for slum clearance purposes.)

Estate.	Non-Parlour.	Parlour.	Total.
Ashes Estate, Clubmoor...	...	176	176
Cantril Farm	592	34	626
Cantril Farm (Flats)	20	60	80
Dovecot	2,331	686	3,017
Edge Lane Drive	560	311	871
Elms House	252	—	252
Elm Vale, Fairfield	—	31	31
Fazakerley	1,030	410	1,440
Field House, Wavertree	—	14	14
Finch Lane	54	—	54
Garston	—	159	159
Highfield	—	618	618
Hunt's Cross	159	58	217
King Street, etc., Garston	76	—	76
Knotty Ash	406	287	693
Knowsley	874	—	874
Larkhill	478	1,838	2,316
Larkhill (Flats)	90	120	210
Norris Green	4,754	2,965	7,719
Park Road, Dingle	—	31	31
Pinehurst Road	287	395	682
Ronald Street	78	—	78
Sparrow Hall	539	65	604
Sparrow Hall (Flats)	68	—	68
Speke (Banks Lane)	286	—	286
Speke	1,349	1,706	3,055
Speke (Aged Persons ; Flats)	276	—	276
Speke Road (Flats)	312	—	312
Springwood	250	1,269	1,519
Springwood (Flats)	24	49	73
Stalmine Road, Fazakerley	—	78	78
Walton-Clubmoor	1,525	1,671	3,196
Woodlands, Aigburth	—	61	61
Woolton	534	120	654
Chelwood Avenue and Walsingham Road	—	92	92
Queens Drive, Walton (Flats)	51	—	51
Total within the area of the City	17,255	13,304	30,559
Brook House	389	203	592
Brook House (Flats)	198	—	198
Huyton Farm	937	79	1,016
Knowsley	4,076	812	4,888
Knowsley (Flats)	108	—	108
Lyme Grove	—	28	28
Lyme Grove (Aged Persons Flats)	32	—	32
Total outside the City Boundary	5,740	1,122	6,862
GRAND TOTAL	22,995	14,426	37,421

In addition, there are 164 flats attached to shops and maintenance depots on various estates.

The number of houses inspected for housing defects under Public Health or Housing Acts was 17,838, and the number of inspections made for the purpose was 35,026. Notices were served requiring defects to be remedied under the Public Health Act in respect of 39,905 houses. The number of dwelling houses in which defects were remedied after service of formal notices was 20,957, and in 18,439 dwelling-houses defects were remedied in consequence of informal action. In addition, 283 dwelling-houses were rendered fit for human habitation after service of notices under Section 9 of the Housing Act, 1936.

Housing Act, 1936, Part IV. Overcrowding.

18,810 visits were made to houses in connection with the overcrowding provisions of the Housing Act, and 3,624 houses were found to be overcrowded.

Overcrowding of Houses.

A complete overcrowding survey of all the houses in the City has not been carried out since 1936, but in Abercromby, Brunswick, North Scotland and South Scotland Wards, and St. Anne's Ward, recent surveys indicate the following conditions of overcrowding:—

Ward.	Total No. of houses in Ward.	No. of houses overcrowded on Schedule 5, Table 1.	Percentage of houses overcrowded.	Percentage of families overcrowded.
Abercromby	3,352	964	28·75%	13·36%
Brunswick	2,757	359	13·02%	10·6%
North Scotland	2,418	413	17·08%	14·59%
South Scotland	2,686	516	19·21%	16·04%
St. Annes	1,694	453	26·74	20·77%

Summary showing units of overcrowding in the following wards:—

Wards.	Units of Overcrowding.]														Total families.	
	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	6	$6\frac{1}{2}$	7	$7\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{2}$		
Abercromby ...	346	279	119	113	43	30	23	7	2	1	—	1	—	—	—	964
Brunswick ...	89	91	61	41	31	28	8	1	5	1	1	2	—	1	—	359
North Scotland ...	143	106	49	40	26	25	11	5	1	2	2	2	—	1	—	413
South Scotland ...	163	142	72	49	28	17	21	12	5	2	3	2	—	—	—	516
St. Annes ...	139	122	54	63	21	25	9	6	7	4	1	2	—	—	—	453

Houses Owned by the Local Authority.

Total number of houses and flats owned by the Local Authority at 31st December, 1950 (excluding 19 houses built under the Housing Acts and subsequently sold, and 3,502 temporary bungalows) including 235 houses and flats under the control of the County Borough of Bootle 47,830

Number of houses built in the last two years under the Housing Act, 1936, Part V 3,177

The following table shows the accommodation which has been provided in the Corporation's housing and rehousing schemes up to 31st December, 1950.

No. of rooms per dwelling (exclusive of bathroom, sculleries, etc.)	Number of Houses and Flats erected.						TOTALS.	
	On Suburban Estates.			In Central Areas.				
	Houses.	Aged persons' cottages.	Flats.	Houses.	Flats.			
1	—	130	138	—	222	490		
2	—	548	328	—	1,951	2,827		
3	1,761	—	391	24	3,425	5,601		
4	19,191	—	249	183	3,794	23,417		
5	14,490	—	167	35	355	15,047		
6	262	—	—	—	18	280		
7	1	—	—	—	—	1		
TOTALS ...	35,705	678	1,273	242	9,765	47,663		

In addition there are 164 flats over shops or attached to maintenance depots, and 3,502 temporary bungalows.

Rentals.

The weekly rentals of flats (including rates), range from 4s. 7d. for a bed living room flat to 12s. 11d. for a five bedroom flat. The inclusive weekly rental of houses vary between 10s. 7d. for the non-parlour type, and 48s. 1d. per week for houses with four bedrooms, and for Aged Persons' Cottage Flats 4s. and 6s. 6d. per week. New three-storey flats range from 10s. 6d. for one bedroom to 30s. 6d. for a four bedoomed flat.

General Statistics.

Area of City	...	...	27,321 acres
Number of inhabited houses at 31st December, 1950	...	...	197,659
Number of structurally separate dwellings occupied (1931 Census).			173,938
Rateable value	...	...	£6,593,222
Sum represented by a Penny Rate ...	...	...	£26,076

WATER SUPPLY.

The water supply in the area during 1950 was satisfactory both in quality and quantity.

Bacteriological examinations of the waters were made regularly by the City Bacteriologist, samples for these routine examinations being taken both in the City and at the local Reservoirs, Prescot.

While there has been no reason in the past to regard the waters as unduly plumbo-solvent, investigation of the subject has continued. The steps which were taken to raise the *pH* value of the Rivington supply have been continued successfully, and steps are still being taken to do the same to the Vyrnwy supply.

The supplies from both Rivington and Lake Vyrnwy are treated by slow sand filtration and chlorination, and further chlorination is carried out at Prescot Storage Reservoirs.

There are no parts of the area dependent upon stand-pipes for a supply.

REPORT OF THE CITY BACTERIOLOGIST.

In 1950 the number of examinations made was 86,944.

PLAQUE. 3,497 examinations on rats were made, and none of the rats was found to be infected with plague.

ANTHRAX. Of the samples of wool and hair submitted for examination, 388 specimens were received from the Government Wool Disinfecting Station; 194 were untreated, of which 76 contained anthrax bacilli; 194 were treated, and of these none was infected with anthrax.

Examinations made in the Bacteriological Department during the Year 1950.

Milk (fresh—liquid)	...	...	...	...	...	...	...	...	10,309
Churn Rinsings	...	...	...	...	...	...	...	...	8
Ice Cream	...	...	...	...	...	...	...	...	1,250
Water	...	...	...	...	...	...	...	...	2,687
Shellfish	...	...	...	...	...	...	...	...	46
Foodstuffs	...	...	...	...	...	...	...	...	274
Wool and Hair for Anthrax	...	...	...	...	...	...	...	...	406
Rats for Plague	...	...	...	...	...	...	...	...	3,497
Swabs from Throat and Nose Infections	...	...	...	...	...	...	...	...	10,121
Specimens for Intestinal Infections	...	...	...	...	...	...	...	...	10,033
Cerebro-Spinal Fluid, etc., for Pathogenic Organisms and Chemical Examination	...	...	...	...	...	...	...	...	1,403
Sputum and/or other Secretions for Tubercl Bacilli	...	...	...	...	...	...	...	...	3,948
Exudates for Anthrax Bacilli	...	...	...	...	...	...	...	...	54
Specimens for Culture and Penicillin Sensitivity	...	...	...	...	...	...	...	...	346
Cough Plates, etc., for Whooping Cough	...	...	...	...	...	...	...	...	1,745
Secretions for Organisms	...	...	...	...	...	...	...	...	1,215
Miscellaneous Specimens	...	...	...	...	...	...	...	...	101
									<hr/> 47,443

Venereal Diseases.

Serological Tests	...	...	...	...	...	...	...	...	36,874
Other Tests	...	...	...	...	...	...	...	...	2,627
									<hr/> 39,501

86,944

APPENDIX A.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1950.

England and Wales, London, 126 County Boroughs and Great Towns, and 148 Smaller Towns. (Provisional Figures)

	Rate per 1,000 Population.	Annual Death-Rate per 1,000 Population.								Rate per 1,000 Live Births.
		Live Births.	Still-births.	All Causes.	Typhoid and Paratyphoid Fevers.	Small-pox.	Whooping Cough.	Diphtheria.	Influenza.	
England and Wales	15·8	0·37	11·6	0·00	0·00	0·01	0·00	0·10	1·9	30
126 County Boroughs and Great Towns, including London	17·6	0·45	12·3	0·00	0·00	0·01	0·00	0·09	2·2	34
148 Smaller Towns (Resident Populations 25,000 to 50,000 at Census 1931)	16·7	0·38	11·6	0·00	0·00	0·01	0·00	0·10	1·6	29
London	17·8	0·36	11·8	0·00	0·00	0·01	0·00	0·07	1·0	26
Liverpool	20·1	0·47	11·6	0·00	0·00	0·02	0·00	0·07	2·6	37

Puerperal Sepsis. Others. Total.
The maternal mortality rates (provisional) for England and Wales are as follows : per 1,000 Total Births ... 0·12 0·74 0·86

CITY OF LIVERPOOL.

Infant Mortality during the year 1950.

Net deaths from stated causes at various ages under One Year.

CAUSE OF DEATH		Total deaths under 1 year																						
		Under 1 day	1 to 2 days	2 to 3 days	3 to 4 days	4 to 5 days	5 to 6 days	6 to 7 days	1 to 2 weeks	2 to 3 weeks	3 to 4 weeks	Total deaths under 28 days	28 days to 2 months	2 to 3 months	3 to 4 months	4 to 5 months	5 to 6 months	6 to 7 months	7 to 8 months	8 to 9 months	9 to 10 months	10 to 11 months	11 to 12 months	
Typhoid Fever	
Poliomyelitis	1	...	...	...
Measles	2	
Scarlet Fever	
Whooping Cough	1	...	...	9	
Diphtheria	
Cerebro Spinal Fever	1	...	...	6	
Influenza	2	
Dysentery	1	
Erysipelas	
Pulmonary Tuberculosis	2	
Tuberculous Meningitis	2	
Other Tuberculous Diseases	2	
Meningitis (not Tuberculous)	2	
Convulsions	2	
Bronchitis	15	
Pneumonia (all forms)	114	
Diarrhoea	
Enteritis	41	
Other Diseases of Stomach	
Syphilis	1	
Rickets	
Suffocation	8	
Injury at Birth	21	10	5	6	2	—	3	2	—	49	—	1	—	—	—	—	—	—	50
Atelectasis	17	4	6	3	1	—	1	3	1	36	—	7	4	4	1	2	—	—	36
Malformations	10	9	5	2	2	2	2	4	4	3	43	16	7	1	2	3	2	—	78
Premature Birth	74	29	14	10	—	4	4	8	—	1	143	4	2	1	—	—	—	—	150
Atrophy, Debility and Marasmus	—	—	—	—	—	—	—	—	—	1	1	1	1	—	—	—	—	5	
Other Causes	6	3	9	3	1	1	1	5	3	5	37	7	8	5	5	2	2	1	72
Totals	128	55	39	24	6	7	11	25	9	12	316	65	67	43	35	23	14	8	601

Net Births in the year

{ Legitimate ... 15,142
Illegitimate ... 968

Net Deaths in the year of

{ Legitimate Infants 581
Illegitimate Infants 40

APPENDIX C.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1950.

DISEASE.	At all Ages.	NUMBER OF CASES NOTIFIED.													Cases admitted to Hospital	TOTAL DEATHS		
		At Ages—Years																
		Under 1	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—					
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Scarlet Fever.....	1356	3	30	100	184	170	629	167	48	17	8	—	—	—	328	—		
Diphtheria	66	2	7	9	4	4	10	12	6	7	2	3	—	—	65	2		
Enteric Fever (including Paratyphoid)	10	1	—	—	2	—	2	1	1	3	—	—	—	—	10	—		
Puerperal Pyrexia.....	219	—	—	—	—	—	—	—	20	164	35	—	—	—	213	—		
Pneumonia.....	506	67	38	36	40	24	39	14	10	57	32	85	64	33	33	87		
Cerebro-spinal Fever	49	17	8	5	5	3	5	1	1	1	—	3	—	—	47	12		
Poliomyelitis	135	9	31	28	12	9	16	7	5	14	3	1	—	—	129	6		
Encephalitis Lethargica	2	—	—	—	—	—	—	—	—	2	—	—	—	—	1	6		
Dysentery	203	15	27	26	16	13	42	9	8	25	7	9	6	156	4			
Ophthalmia Neonatorum	132	132	—	—	—	—	—	—	—	—	—	—	—	—	105	—		
Erysipelas	139	—	—	—	1	—	1	—	6	11	28	76	16	92	1			
Malaria	21	—	—	—	—	—	—	—	1	14	3	2	1	11	—			
Anthrax	2	—	—	—	—	—	—	—	—	2	—	—	—	—	2	—		
Measles	8621	547	1250	1629	1755	1253	2093	53	24	11	4	2	—	585	4			
Whooping Cough	3740	383	561	623	681	552	909	22	3	3	2	1	—	537	20			
Food Poisoning	39	4	5	3	3	3	2	1	2	6	7	2	1	18	1			
TOTALS.....	15240	1180	1957	2459	2703	2031	3748	287	135	337	131	184	88	2332	143			

CITY OF LIVERPOOL.

APPENDIX D.

DEATHS REGISTERED DURING THE YEAR 1950

DISEASES	SEX	AGE—BELOW																										TOTALS
		Males	Females	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	90	Over 90			
ALL CAUSES		4852	4448	601	63	32	15	11	38	34	56	100	147	135	181	241	344	445	644	893	1157	1422	1291	1313	137	9300		
I.—Infectious and Parasitic Diseases		375	268	28	24	9	5	2	8	5	23	51	71	51	53	35	50	48	50	42	20	14	3	1	643			
II.—Cancer and other Tumours		8	6	726	3	4	3	3	1	3	5	10	17	37	71	111	128	173	217	259	250	165	122	10	1592			
III.—Rheumatism and other General Diseases		28	85	1	1	...	...	2	1	4	..	6	1	1	5	7	4	8	12	23	19	13	5	...	113		
IV.—Diseases of the Blood		20	23	1	2	...	...	1	1	1	...	1	1	2	1	1	5	3	7	7	4	...	43				
V.—Chronic Poisoning	735		
VI.—Diseases of Nervous System		332	403	11	1	2	...	...	3	2	2	8	11	11	11	17	22	34	47	68	117	127	122	112	7	...	3466
VII.—Diseases of Circulatory System		1726	1740	...	1	...	...	1	1	6	4	11	15	25	33	49	85	121	208	335	447	674	653	721	76	...	1352
VIII.—Diseases of Respiratory System		774	578	137	22	8	3	4	4	3	9	3	6	6	14	23	31	59	91	135	173	211	196	193	19	...	310	
IX.—Diseases of Digestive System		164	146	47	2	3	...	...	2	4	...	3	4	3	6	10	10	18	27	31	39	39	38	24	...	...	190
X.—Diseases of Genito Urinary System		113	77	1	1	...	1	1	3	3	3	4	2	3	11	8	7	19	9	22	33	26	31	2	...	7		
XI.—Diseases of Pregnancy	7	...	...	...	...	...	...	...	2	1	2	2	...	...	1	1	...	2	3	1	...	...	9			
XII.—Diseases of Skin		6	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	4	3	4	5	...	24	
XIII.—Diseases of Bones		7	17	...	...	2	...	2	...	2	2	...	1	...	3	1	1	...	...	...	...	...	...	...	...	95	
XIV.—Congenital Malformations		46	49	78	3	2	...	2	...	2	2	...	1	...	3	1	1	...	...	...	...	...	...	...	...	281	
XV.—Diseases of Early Infancy		162	119	281	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	7	22	62	19	112	
XVI.—Old Age		35	77	...	...	6	4	1	11	8	5	14	17	16	16	17	17	19	18	26	23	28	28	31	3	326	
XVII.—Deaths from Violence		197	129	12	6	6	4	1	11	8	5	14	17	16	16	17	17	19	18	26	23	28	28	31	3	2		
XVIII.—Ill-defined Diseases		1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
Class 1.—Typhoid Fever	1	...	...	...	...	...	...	...	...	...	...	...	...	...	12	
Cerebro-spinal Fever		6	6	6	...	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	20
Scarlet Fever	2	
Whooping Cough		11	9	9	10	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Diphtheria	2	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Erysipelas	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Tuberculosis of Resp. Syst.		289	192	2	...	1	...	2	...	17	46	68	47	46	32	42	40	43	42	31	12	9	1	...	481			
Tuberculous Meningitis		13	19	2	6	3	1	2	4	3	4	2	1	1	1	1	1	1	1	1	2	2	1	...	32			
Tuberculosis of Intestines, etc.		1	2	...	...	...	...	...	...	...	...	...	1	2	2	1	3	1	1	2	2	1	...	...	3		
Tuberculosis of other Organs		12	17	2	5	2	1	...	1	...	1	2	1	2	1	1	1	1	1	1	1	1	1	...	4			
Dysentery		4	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Malaria	1	
Syphilis		19	8	1	...	...	...	...	...	...	...	...	...	...	...	...	2	5	3	5	6	2	1	1	1	...	27
Locomotor Ataxia		1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
General Paralysis of Insane	
Smallpox	4	
Measles		2	2	...	1	1	...	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	6	
Acute Poliomyelitis		4	2	1	1	...	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	6
Encephalitis Lethargica		5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
Other Infectious Diseases		8	7	2	1	...	...	...	...	...	...	...	1	...	1	2	1	1	2	2	2	1	1	1	1	1	15
Class 2.—Cancer of Buccal Cavity		36	10	1	...	2	6	14	15	21	37	40	61	78	44	37	1	...	46
Stomach		201	156	...	...	...	...	...	...	...	...	...	1	...	1	2	3	1	2	4	5	2	1	4	...		

